GLOBAL ENVIRONMENTAL AGREEMENTS AND LOCAL LIVELIHOODS

HOW THE INTERNATIONALISATION OF ENVIRONMENTAL RESOURCES SHAPES ACCESS TO AND CONTROL OVER WETLAND RESOURCES IN THE OKAVANGO DELTA, BOTSWANA

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STATEMENT OF DECLARATION

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to any other University for the award of any degree.

Signature.....

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SUMMARY

This thesis examines how global environmental crisis narratives and discourses have influenced environmental policy and practice in conservation programmes for the Okavango Delta, Botswana. In particular, it highlights the contested nature of biodiversity conservation and the embedded power relations in the framing, definition and crafting of solutions to the problem of biodiversity degradation at local, national and international levels. The thesis therefore examines, based on these framings, the consequences of global environmental agreements, such as the Ramsar Convention and the UN Convention on Biological Diversity, for local livelihoods in terms of access to and control over local environmental resources in the Okavango Delta.

Using a political ecological conceptual lens and related literature on common pool resource management and community-based natural resource management, this thesis traces the changing perceptions, narratives and discourses relating to the Okavango Delta over time, and assesses how these have shaped changes in policy for the Delta's use and management. It specifically analyses the implementation of international programmes and their role in facilitating these changes. Through an in-depth study of dynamic human-environment interactions around fisheries and other wetland resources, this thesis shows how international interventions have not only increased conflicts but also facilitated the strict regulation of these resources. The thesis therefore analyses how framing these and other common pool resources as being of 'international significance' alters control over them and affects the livelihood security of the local people that depend on these resources. It concludes that such restrictive conservation policies and management approaches have led to a transfer of control over wetland resources from local subsistence users to other, more powerful, commercial interests, especially those in the international tourism industry.

Chapter 1: Introduction

> *'The river is our livelihood; our cattle drink and graze from it. If you ask us to move our cattle away from the river we will die.'* – Elderly male Seronga resident, responding to a Minister's 'suggestion' that Okavango Delta residents move their cattle away from the river because it had been designated an internationally-shared resource and a Ramsar site that ought to be managed in a sustainable manner (Village Assembly, Seronga, Okavango Delta, Botswana, 5 September 2008).

This study explores how global discourses, policies and practices around biodiversity conservation shape livelihoods that are directly dependent on ecological resources in wetland ecosystems. Natural resources are at the centre of livelihoods, culture and welfare in many rural communities in the developing world, and processes that alter access to and control over those resources have profound socio-ecological implications for the human communities living in and around them. While serving the function of providing different ecosystem goods and services, such as food, water and other raw materials for household and personal use, the environment also plays a role in shaping the history, culture and identity of people who live in and use it, which in turn also shape landscapes (see Fairhead and Leach 1996; Leach and Mearns 1996; Basset and Crummey 2003; Wolmer 2007). Thus, the aim of this study is to explore the consequences of the practices and discourses around conservation on human-environment interactions in the Okavango Delta, Botswana, and in particular the outcomes for poor resource-users regarding access to and control over specific resources such as wildlife, fish, wild grasses and farm land. The focus is not on the policy *processes* that characterise these global-local interactions, as explored in other studies (e.g. Keeley and Scoones 2003), but rather on their *local consequences.*

I will argue that national and international conservation policies are often not compatible with the environmental practices and livelihoods of local resource-users, as is often portrayed in international environmental debates. Since the 1980s, and in particular after the publication of the Brundtland Commission's report, *Our Common Future,* in 1987,[1] the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro and the 2002 Johannesburg Summit, concern about global environmental change and biodiversity loss has heightened. These events and the processes around them 'have influenced the way international and

[1] Coined and defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987:43), sustainable development, according to Adams (2009:3), was 'coined to suggest the idea of an environmentally sensitive economic development'. One of the UNCED's main products, Agenda 21, complements this concept by setting out principles for achieving sustainable development, and in particular mobilising citizens to 'think global and act local'.

national debates about environment and development are held and given them increased political prominence' (Adams 2009: xvi). A significant development has been the increasingly *globalised* framing of the environmental problem, and, as this thesis will show, the enhanced focus of conservation efforts on certain parts of the world and certain resources and ecosystems, such as wetlands.

This framing of environmental problems has facilitated, on the one hand, international responses such as the creation of global policy frameworks for environmental management, including international agreements, conventions, organisations and institutions, and the targeting of specially-designated landscapes and ecosystems for conservation (e.g. biodiversity hotspots, wetlands of international importance, etc.), and, on the other, scientific approaches to understanding and addressing global environmental change (e.g. global ecosystem assessments). As will be discussed in detail in this thesis, the 'global public goods' approach has been advanced as a justification for these global practices, and has significantly informed international efforts to manage global environmental change. The Global Environment Facility (GEF), for example, was established in 1991 as the first international initiative 'to address global environmental issues', and *generate global environmental benefits* by providing funding for projects in the developing world and economies in transition in the areas of climate change, biodiversity loss, land degradation, international waters and pollution of the ozone layer'.[2] Since the founding of the GEF, international cooperation and action towards addressing these global problems has received widespread attention and has shaped relations between governments, non-governmental organisations and communities around the world. These interactions have been influenced by substantial investments in the production of scientific knowledge and technical expertise, as well as large injections of financial assistance by many donor countries and international conservation organisations, and have led to major changes in conservation and development policies and practices. They have also had a profound effect on livelihoods and landscapes across the developing world.

But what exactly does *generating global environmental public goods* actually entail, and what impacts does it have at the local level? As I will attempt to demonstrate in this thesis, the reshaping of governments' environmental practices resulting from the interventions of international conservation organisations, supported by global agreements, has major implications for human-environment relations: it shapes access to, use of and control over vital ecological resources on which entire communities depend. As Brockington and Scholfield (2010: 558) argue: 'Investing

[2] http://www.thegef.org/gef/whatisgef, accessed on 24/02/2011

places with conservation importance has profound social implications; landscapes and resources are removed from one set of users, and transferred to others'. This begs the question: who wins and loses as a result? How do these changes shape the lives and livelihoods of different groups and individuals dependent on the direct use of such environmental resources?

To explore this question, this research seeks to analyse contestations over access to and control over wetland resources in the Okavango Delta in Botswana, southern Africa, and in particular the role of global discourses and narratives of environmental change and degradation in shaping these contestations. This research specifically looks at the changes that have resulted as a consequence of the listing of the Okavango Delta as a 'Wetland of International Importance' under the Ramsar Convention, and the signing and implementation of the United Nations Convention on Biological Diversity (UNCBD). It will show how, prior to the listing of the Okavango Delta as a Ramsar site, the Government of Botswana was pursuing a policy of large water developments and exploitation of its water resources. This focus shifted when policy, influenced by powerful discourses and compelling narratives about biodiversity degradation and wetland loss, was forced to focus on conservation. These discourses against the proposed water developments were advanced by groups such as the International Union for Conservation of Nature and Natural Resources (IUCN) and Greenpeace in the early 1990s. The pro-conservation advocates in these organisations present the Okavango Delta as a unique, biodiversity-rich and globally-significant ecosystem that needs special protection from human impacts because it is fragile. They have used strong degradation narratives, backed by 'sound' conservation science, to inform and influence policy and practice in Botswana and the Okavango Delta in particular. Many of the interventions and solutions to the real and imagined degradation problems are, however, highly contested at all levels of resource-use and management. These disputes have tended to be driven by an alliance of 'big conservation' actors and national players to advance a 'conservation first' agenda over subsistence uses. These strict conservation policies have, at the same time, promoted commercial and private business interests in the name of conservation, in particular the use of wildlife and prime land for private, so-called 'high value, low volume' tourism. As a result, already advantaged groups, such as private tourism companies, the cattle elite and government institutions, among others, have benefited from this shift towards strict conservation.

The attention that the Okavango Delta has received from leading international conservation organisations and the presence of a strong local conservation agenda, mostly pushed by the private tourism industry and government agencies, has contributed significantly to its internationalisation.

This growing conservation focus, driven by international instruments such as the Ramsar Convention and projects, has been justified as a global public good. But if biodiversity and its conservation are *global* public goods, then how do they shape human-environment interactions in *local* landscapes, and with what consequences for people and the environment?

Understanding the dynamics around conservation requires a 'thorough knowledge of its consequences to people and nature' (Brockington 2002:5). Thus, in this study I have employed a grounded, field-based study of local people's experiences of the environmental and conservation policies of government agencies and the practices of international conservation organisations in the Okavango Delta. This *local* analysis of the political ecology of the Okavango Delta is key to understanding the impacts and consequences of biodiversity conservation on landscapes and the livelihoods of people in such places.

1.1 Research objectives and study area

Developing countries have shown significant support for the renewed international concern towards addressing 'global environmental problems' (Adger et al. 2001: 681) through participation in international debates and implementation of policies that seek to address these problems. Many countries have ratified international environmental conventions and set aside significant tracts of land for conservation. While this has built on the colonial legacy that saw the people-nature relationship in neo-Malthusian terms and instituted strict managerial approaches to solving the perceived problems (Lele et al. 2010), this renewed enthusiasm stems from the neoliberal policies of international financial institutions such as the World Bank and IMF and associated agencies of the UN (Adger et al. 2001). Through linking the environment to foreign aid, these institutions have directly influenced environmental governance in the developing world. For instance, the UNCBD, whose implementation is financed by the GEF, explicitly links North-South technology transfers and financial assistance with biodiversity conservation goals in developing countries (c.f. Le Prestre 2002). Other than the Ramsar Convention and the UNCBD, Botswana has signed and ratified all other major international environment-related treaties, including the 1994 United Nations Convention to Combat Desertification (UNCCD) (ratified in 1996); the 1992 United Nations Framework Convention on Climate Change (UNFCCC) (ratified in 1994); and the 1973 Convention on International Trade in Endangered Species of wild fauna and flora (CITES) (ratified in 1978). All of these conventions and other regional protocols, such as the Southern African Development Community (SADC) protocols on water, fisheries, wildlife and tourism, apply to the Okavango Delta, and have influenced environmental policy at the national level for managing environmental

resources in Botswana. Botswana's Ministry of Environment, Wildlife and Tourism (MEWT) is also in the process of preparing for the official listing of the Okavango Delta as a World Heritage site under the United Nations Educational Scientific and Cultural Organisation's (UNESCO) World Heritage Convention.[3]

The capacity to domesticate international conventions and treaties to apply to the local context remains elusive for many developing countries, however, often resulting in partial implementation (UNEP 2008). As I will also argue in this thesis, these instruments have, nonetheless, been used by influential and powerful groups locally, such as the political elite, the cattle elite and those in the tourism industry, to advance and legitimise their interests and strengthen their position in environmental competition and conflict. Through these instruments, they influence government policy and interventions, and even advocate for more control and access to certain resources. The commercial tourism sector, in particular, presents their activities as compatible with conservation and therefore legitimate and deserving of more of the resource than other users. Much of the implementation of biodiversity conservation (e.g. UNCBD) has been through the designation of protected areas in the form of game reserves and national parks, a move that has direct impacts on local physical access to and control over resources, and which often relies on the exclusion of local people (Neumann 1998; 2004; Adams and Hutton 2007; Lele et al. 2010). I will argue that the recent surge in international conventions has added to this legacy of managerial approaches to environmental change and introduced new ways of controlling people and nature (Jeanrenaud 2002) that tend to 'reregulate nature through forms of commodification' (Igoe and Brockington 2007: 432; Brockington and Duffy 2010), introducing new types of users and displacing some previous ones.

Using the Okavango Delta as a case study, the aim of this thesis is to show how global framings and discourses of environmental change have become new mechanisms for globalising control over nature and people around the world (after Jeanrenaud 2002) by international environmental and conservation organisations, and have also become a mechanism through which certain local actors legitimise their interests in environmental exploitation and conservation. These 'top-down, interventionist and technocentric global environmental discourses' (Adger et al. 2001: 701) call for a generation of global public goods through conservation and protection of global commons, justifying international interventions, and driving change in the policies and practices of governments in many parts of the world. Often the discourses they advance promote, or result in the

[3] Senior Environment Officer, Skype interview, 04 February 2011. The full name of the Convention is World Heritage Convention Concerning the Protection of World Cultural and Natural Heritage.

exclusion and marginalisation of certain environmental actors, by presenting their uses of the environment as unsustainable and degrading of the environment, although discourses and narratives of participation and involvement of local people are always part of the debates (Jeanrenaud 2002).

Drawing on detailed research from the Okavango Delta and interviews with key local, national and international actors, I will highlight how local subsistence and small-scale fishers, farmers and pastoralists have had to contend with restrictive and discriminatory policies put in place by government institutions, such as the departments of wildlife, fisheries and environment. This increasing encroachment upon local use and management of the Okavango Delta by the state has been influenced by a growing perception that local rural resource-users and their livelihood practices pose a threat to the sustainability of the wetland ecosystem. As a result, control over these resources, and in many instances access to them, is becoming increasingly restricted through state policies in the name of conservation, or is being transferred from subsistence uses to more commercial ones, as they are perceived as being more compatible with conservation. Funding and technical assistance to put these policies in place are often provided by international conservation organisations such as Conservation International, IUCN and WWF, and by funding institutions such as the GEF. But how *global* are the benefits of international biodiversity conservation if *local* benefits are either not generated, are transferred to other groups, or accrue only to a select few? As Homewood and Brockington (1999: 309) observe: 'Conservation in Africa has been dominated by exclusion of people from resource use and decision making in protected areas. Current political and economic realities and awareness of the needs and aspirations of rural African populations make it clear this may not be optimal management policy, however attractive to hardline conservationists'. This study will reveal how this exclusion is also observable outside traditional protected areas, in so-called 'buffer zones' and 'ecologically-sensitive areas', and it is in these areas where contestation and conflict are also rife. Even though the signing of the Ramsar and UNCBD conventions have not necessarily resulted in the direct demarcation of new parks and game reserves, they have enhanced the promotion of strict and exclusive management of the Okavango Delta outside the traditional protected areas. Moreover, they have promoted uses that are commercial and private over the subsistence uses of local communities, as the newer uses are seen as more economically profitable.

The post-1992 international move to produce global public goods (through the UNCBD, the GEF and others) through deliberate interventions in the management of local environments has facilitated what Forsyth (2003: 178) terms the 'globalisation of environmental problems and risk'. As he

states, 'Universalistic approaches to risk and 'global' environmental problems may have negative impacts on both scientific explanation and people living in zones where such universalistic approaches are applied' (Ibid). Through international conventions, institutions and organisations, scientific knowledge and evidence about environmental change is produced, and technical advice and financial assistance for policy and management reforms are channelled from the global north to the south and in between (Keeley and Scoones 2003). In this way, the global shapes the local. Furthermore, important decisions about the use and management of local resources are often made by institutions and actors located remotely from these resources through international project activities and donor funding conditions. This internationalisation of local resources transfers a significant amount of decision-making power and control from the local communities hosting such 'globally important' resources to actors located elsewhere, and, as will be shown in this study, to locally-powerful groups. In many cases, the discourses and practices of international organisations become institutionalised at national policy level and are appropriated by powerful local groups (e.g. conservation movements and the tourism industry) to legitimise their interests in environmental management, and this link between the global and the local becomes blurred. Global discourses, policies and practices thus become local-*ised* and often used as tools by more powerful groups to capture more of the local resources. At the local level, in the case of the Okavango Delta, the tourism industry often evokes the ecological and conservation status of the wetland and uses degradation narratives to justify restrictions of the use of the resource by some groups (e.g. subsistence livestock farmers, commercial fishers), and this is done by state institutions and NGOs, as well as by private commercial interests. This has mostly benefited Botswana's tourism interests and goals, and as a result government agencies and private elite interests in tourism. As a result, the upstream water development interests and aspirations of Namibia and those of poorer users within Botswana have been marginalised. Driven by specific events and decisions, the Okavango Delta has therefore been re-imagined from a remote resource available for use and human exploitation, to a 'fragile' ecosystem and a conservation centre-point characterised by strict, exclusive management. As a prime conservation site, the Okavango Delta thus remains largely inaccessible to those outside tourism and conservation, and the interests of the local subsistence users remain peripheral.

This thesis does not in any way argue that biodiversity is not, or may not be at risk of degradation, that the Okavango Delta does not require conservation or protection, or that local environmental practices are always good or environmentally sound. It does, however, challenge the current framings of the state of ecological resources as fragile and facing collapse, and asserts that these extinction and crisis narratives often serve to vilify local environmental users and marginalise their

interests in environmental use and governance, while privileging the interests of conservationists and those who benefit from conservation. Writing on African floodplain wetlands, Haller (2010: 1) argues: 'The dominant narrative is that as these are resource-rich areas in a poverty-ridden environment, they have to be protected'. Often these crisis narratives, the global views of science, knowledge and practice, and the outcomes that they produce, win over local knowledge and practices. This managerial and technocentric approach to environmental change (Adger at al. 2001) may be unsustainable in the long run, as well as socially unjust, as it may undermine the ability of those most likely to suffer from the negative effects of such change to cope with it.

In the context of Botswana's desert landscape, characterised by droughts and little, erratic rainfall, the Okavango Delta is a unique ecosystem that is aesthetically appealing, ecologically rich and biologically diverse. It has been referred to as 'the jewel of the Kalahari' (Ross 2003) and similar such names, and is portrayed as a naturally captivating place by those who visit, write and make films about it. As Ross (2010:54) describes the Okavango Delta's 'dazzling biodiversity': 'it has over 1000 species of plants, nearly 500 species of birds and diverse wildlife boasting the Big 5'.[4] This includes an estimated population of 150,000 elephants and over 200,000 buffaloes. The ecology, zoology, limnology, botany and hydrology of the Okavango Delta make it a rich spectacle compared to the desert-like landscape of the rest of Botswana. This spectacular landscape carries a particular image and perception that the swamps face a significant threat from human exploitation, and should therefore be protected from it. In this way, the particular ecology of the Okavango Delta creates a politics about how it should be used, managed, by whom and when, just as its politics creates a particular image; that of ecological fragility. The Okavango Delta only floods seasonally, during the driest months of the year when it is most needed by humans and animals alike, and this aspect plays a key role in shaping the use of the ecosystem by different groups in the struggle to access water, fish, grazing land, wildlife, wild plants and other resources found in the area. This often gives rise to competition between these different groups, who tend to have unequal access to and control over the resource, and conflict regularly ensues.

The ecology and politics of the Okavango Delta are not confined within the borders of Botswana, as the Delta forms part of a larger, shared river system, the Okavango River, with its own geo-politics. With its headwaters in the south-central Angolan highlands of the Cuando Cubango region, the river flows south-eastwards and traverses the northern region of Namibia before terminating in the

[4] The Big 5 is a name coined by white hunters to refer to the most difficult animals in Africa to hunt on foot, and the dangers involved in hunting them, rather than their size. The Big 5 include the African elephant, lion, rhinoceros, Cape buffalo and the leopard.

Kalahari Desert sands of north-western Botswana. As it is situated in a relatively dry region, this river is of significant strategic and socio-economic importance for the countries that share it. As will be shown, this transboundary aspect, in addition to the particular ecology of the Delta swamps and therefore their high conservation status, directly shapes frameworks of use of, access to and control over the entire basin.

The Okavango Delta is an ideal case through which to study these issues for a number of reasons. Firstly, as already noted, it is a highly internationalised resource. It was listed in 1997 as a Ramsar site due to its perceived unique ecological and hydrological characteristics as a flood-pulsed wetland (Ramberg et al. 2006). This has implications for how it is used locally by the different resource-users, and nationally through state policies. Secondly, the Okavango Delta is downstream of a transboundary river, and almost all the water in the system is generated in Angola. This makes the Delta vulnerable to upstream water development activities and decisions made by the governments of Angola and Namibia, particularly given that their potential impacts on the Delta ecosystem are not yet fully understood. These and other characteristics of the ecosystem also mean it is a contested resource: locally between different user-groups; regionally as it forms part of a shared river; and internationally between the conservation interests of international organisations and the development interests of the Botswana Government and the local Okavango Delta population. To fully understand these contestations, this research relies on qualitative fieldwork in the Okavango Delta, where patterns of resource use and the different relations between various user-groups could be studied. The ultimate aim was to get a clear picture of who wins and loses as a result of the shifts towards strict conservation of the Okavango Delta, and the distribution of the costs and benefits of this shift.

The choice of the Okavango Delta as a study site was initially influenced by personal reasons. Previous work, a six-month job with IUCN (2003), MPhil research into Integrated Water Resources Management (IWRM) in 2004-06, and an eighteen-month job with a project on Integrated River Basin Management and institutional development of the Okavango River Basin Commission (OKACOM), as well as residence in the area (2004/2005) exposed me to the locally-, regionally- and internationally-contested nature of the wetland (and wider basin), and the issues around its use and conservation. I had the opportunity to interact with high-level policy-makers in all three Okavango Basin countries through the work of OKACOM, and with local communities residing in the Okavango Delta, as well as with international organisations working in the area, including the GEF, UNDP, IUCN, Sida and USAID. It has, therefore, been my interest to understand these issues,

and in particular the outcomes of these contestations for different stakeholders, especially the local Okavango Delta communities who, for the most part, are poor and from among the marginalised ethnic minorities in Botswana.

The main part of this research was therefore focused on understanding the perspectives of local resource-users and their experiences of the Okavango Delta environment, and the conservation and management policies implemented by government agencies and conservation organisations in the area. The majority of the fieldwork was carried out in the village of Seronga (with visits to other sites), located in the eastern part of the Okavango Delta Panhandle, and participant observation comprised a primary part of the data collection process. Over a period of seven months (five months in Seronga and two months in Maun), focus group discussions (FGDs), semi-structured interviews with key informants, field visits, personal histories and informal discussions were carried out with different resource-users and managers. This qualitative methodology was adopted in order to gain a close comprehension of resource-users' experiences and understandings of the dynamics shaping their interactions with the environment. The participants included farmers, fishers, grass and reed collectors and basket weavers from different socio-economic, ethnic, gender and age groups. Interviews and discussions focused on the opportunities and challenges faced by these different groups in their daily interactions with the Okavango Delta environment, and how policies, institutions and ecology regulated their use of the resource, with what outcomes for the different groups. Government extension officers in the area were also interviewed as key informants on issues of policy and resource management. The remaining three months of fieldwork were spent on interviews with 'non-locals' outside the Okavango Delta site, including experts on various aspects of the Okavango Delta ecology, politics and management (e.g. scientists, international project officers and government officers). The detailed methodological approach is discussed in Chapter 2.

Figure 1, below, shows the research site, and the settlements in the North-West District of Botswana, also known as Ngamiland. The main research base was in the Okavango Delta Panhandle (indicated

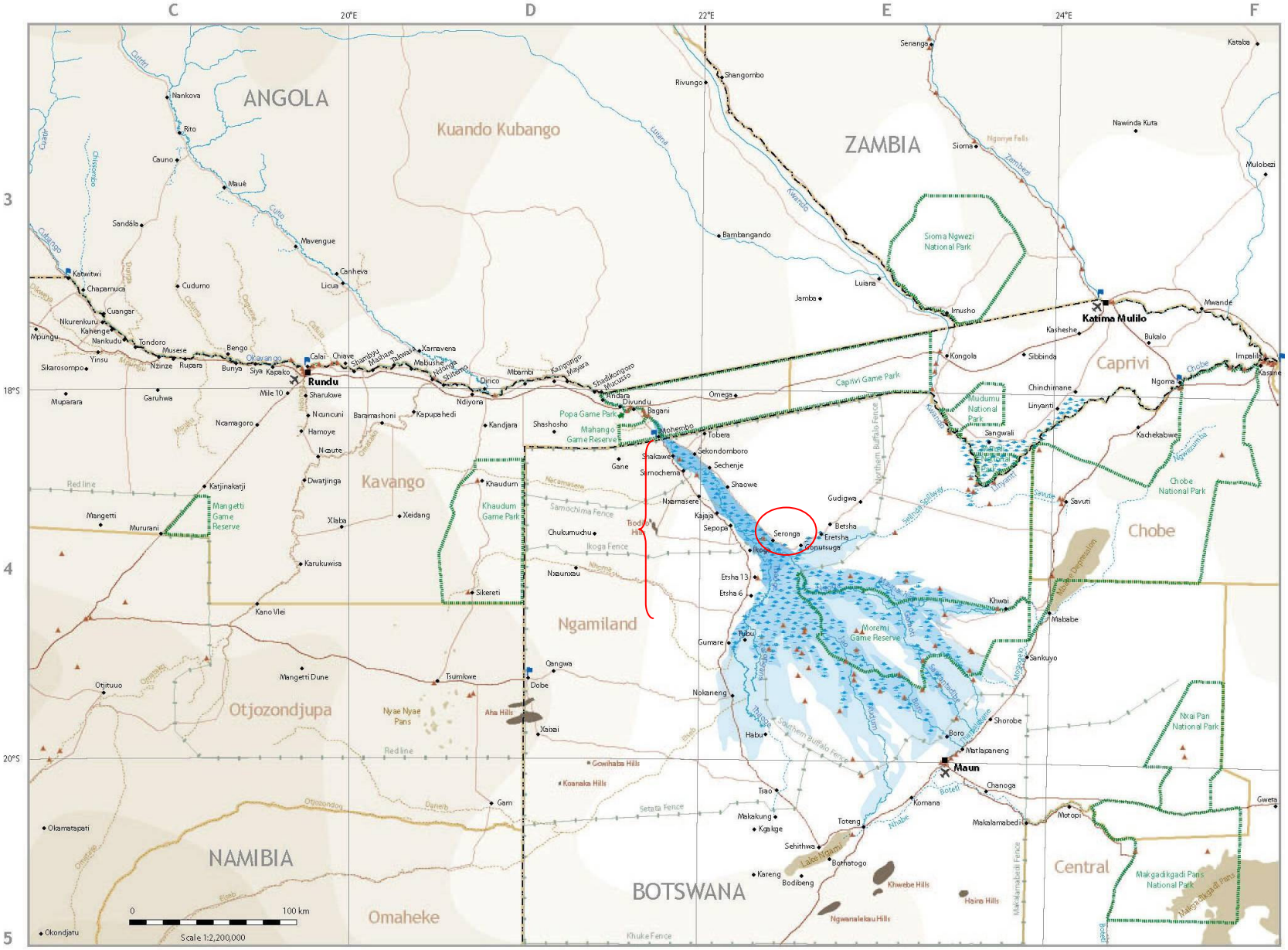

Figure 1: Map of the Okavango Delta showing the primary research site (Seronga: red circle) and the Panhandle (red brace). Map courtesy of Okavango Research Institute (ORI, Maun, Botswana)

on the map) in the northern part of the Delta where the river is perennial, and where most of the district population outside Maun (the district administrative centre) is based. About 70% of Ngamiland's settlements are located within 10km of the river (vanderPost 2006). During years of high flooding, the Okavango Delta is also linked to the Chobe/Linyanti River system to the north-east through the Selinda spillway, and to the Makgadikgadi Salt Pans to the south-east through the Boteti River. During wet years, outflow is deviated to lake depressions (Ngami Lake and Mababe Depression).

1.2 Research questions and focus

The main question that this study seeks to address is: what are the consequences of global environmental agreements on local people's livelihoods, and how do they shape access to and control over local environmental resources? Through this overarching question, this study seeks to explore the implications for local natural resource-based livelihoods when a country like Botswana lists a site like the Okavango Delta as a Ramsar site, and/or signs the UNCBD. In particular, this research aims to understand how the enhanced conservation status of the Delta determines how locals use, access and control the resource, and how different groups benefit or lose out because of this enhanced conservation status. It also strives to understand how different groups position themselves in relation to the broader discourses of global environmental conservation, and how these discourses shape groups' relationship with the environment and its other users, as well as relations to government policies and institutions and international conservation organisations present in the Okavango Delta.

To understand these issues, this study adopts a political ecology framework with emphasis on issues of conservation and control, and degradation and marginalisation (Robbins 2004), and a focus on analysing the political economy of conservation in the Okavango Delta. It explores how power, knowledge, science and practice interact with political interests to shape environmental policy (Leach and Mearns 1996; Keeley and Scoones 2003; Bassett and Crummey 2003) and local practices in the Okavango Delta, and how these in turn shape different actors' access to and control over environmental resources (Bryant and Bailey 1997). It also analyses how global environmental discourses and narratives about environmental change often legitimise the interests of certain local actors in comparison to others, particularly those of the economic and political elites, and how this legitimisation has shaped the distribution of costs and benefits of environmental conservation and exploitation in society.

As Bassett and Crummey (2003: 12) point out: 'Environmental thinking and its narratives about Africa are promoted by a host of organisations, governmental and non-governmental alike, many of them international in reach...African governments play roles subordinate to these external agencies to whom they are beholden for funding and expertise'. How the global shapes the national and in turn the local is therefore an important theme in this study, and through a close analysis of the interventions of international organisations in the Okavango Delta, it is shown how Botswana's environmental policies, at least towards the Okavango Delta, have shifted to echo the discourses of these international environmental actors. Beyond this, as has already been argued, some powerful local actors, such as those in the tourism industry, have appropriated these global discourses and narratives to strengthen their interests and positions in lobbying for more access to the resource, thereby essentially capturing the resource, to the exclusion and disadvantage of poorer users. This thesis focuses specifically on understanding how local resources are perceived, used, managed and accessed by different users in the Okavango Delta setting, how this has changed over time and what the outcomes are for different groups. The local institutions that regulate use of, access to and control over such resources play a central role in local environmental practices, and understanding how these interact with modern state institutions for the management of the same resources gives insight into why policy and practice produce the outcomes they produce.

The role of political interests of groups and individuals such as farmers, fishers, large cattle ranchers, tour operators, government agencies and political and business elites in shaping policy and management practices also need emphasis in the context of Botswana. While policy towards the Okavango Delta may be influenced significantly by global discourses and narratives about the environment, it is also shaped by the interests of these different groups who use and manage the Delta at local and national levels. In Botswana, the political, group and personal interests of the ruling elite deserve special attention, as these are often the same people at the centre of the policy-making process and also the beneficiaries of policy decisions. In the context of the Okavango Delta, alliances are observable between these ruling and business elites in the tourism industry, such that their interests converge to shape policy and practice. As will be shown in later chapters, the cattle elite in Botswana are often also the political (ruling party) elite who occupy influential senior positions in the government bureaucracy. This pattern is observable in other parts of Africa, as shown by scholars such as Picard (1980). This is the context within which political decision-making occurs in Botswana. It is expected that a close understanding of all these issues and their interactions with each other will give insight into the political ecology and in particular the political economy of conservation in the Okavango Delta.

Given these political ecological underpinnings, the study poses a number of more specific questions to guide the research process:

> *Question 1: How have global environmental agreements influenced changes in national policies relating to natural resources management in Botswana and the Okavango Delta?*

This question guides the analysis of changes to national environmental policies that have occurred as a result of global agreements and policies on the environment. In particular, it seeks to understand how the listing of the Okavango Delta as a Ramsar Site, and the ratification of the UNCBD have influenced national policy changes towards the Okavango Delta. Here, the study engages with the relevant literature and scientific publications of international institutions working on environmental issues to understand their discourses and to trace the origins of key ideas and how they become institutionalised to form part of national policy and practice.

> *Question 2: How are global and national narratives about biodiversity loss constructed, and how have they shaped regional, national and local discourses of natural resources management in the Okavango Delta?*

'A narrative is a story with beginning, middle and end (or premises and conclusions, when cast in the form of an argument) and revolves around a sequence of events or positions in which something follows' (Roe 1991:288). Moreover, as Bassett and Crummey (2003:8) argue, 'In the understanding of the dynamic interactions between people and the environment in Africa in general, and in its savannas in particular, perceptions play an important role. Perception, in turn, is shaped by a host of factors, which acquire coherence and meaning through their organisation into larger frames of reference and interpretation into 'master narratives', a mode of structuring reality...' Thus, this particular question seeks to ascertain how perceptions and framings of environmental change and especially biodiversity loss, as well as wilderness visions and calls to celebrate them (see Wolmer 2007) are constructed, where they originate from and how they shape management and use of the resource. Issues of power and knowledge about environmental change become important in this context: they highlight the role of scientific knowledge and who possesses that knowledge versus the perceptions and knowledge of local environmental actors and how these interact with policy to shape human-environment interactions. How different groups position themselves within these debates and the outcomes with regard to access to and control over the resource for different groups are also important aspects of the analysis. Chapters 3, 4 and 5 address different aspects of this question.

Question 3: How have the resulting contestations over wetland resources changed local actors' access to and control over wetland resources and their livelihoods in general?

To answer this question, I have sought to understand, from the perspective of local environmental actors, how changes in national policies and management practice have shaped local actors' use of, access to and control over wetland resources such as reeds, fish, wildlife and other terrestrial-based resources such as wild fruits and farming land. The focus here is on assessing the outcomes and consequences of international and national environmental discourses, policies and practices on local people's interaction with the environment. Local experiences of the environment and the perceived opportunities from and risks to the ecosystem are also explored (though not in great detail) in order to appreciate local environmental practices and how these cope with environmental changes such as flooding and desiccation. However, more important is how policy-driven changes may improve or undermine local people's coping mechanisms and strategies. The findings related to this question are addressed in Chapters 5 and 6.

1.3 Overall argument and contribution of the thesis

In this thesis, I critically examine the discourse around biodiversity loss as a global problem. I question in particular the notion that international interventions in local landscapes are a justifiable and appropriate step towards managing environmental problems. I contend that the practices around biodiversity conservation have increasingly become a tool for control over certain environmental resources by some powerful and privileged groups of actors to the exclusion and disadvantage of other, usually poorer groups. Both at international and local levels, powerful actors such as international conservation organisations, government institutions and local elites have increasingly captured the benefits of conservation, while poorer smallholder farmers, fishers and other land users struggle against the negative consequences of conservation. Global framings and explanations of local environmental problems are often simplistic and based on received wisdom about environmental change, and often propose solutions that are locally inappropriate. This misunderstanding of the complex human-ecological dynamics shaping local resource-use often results in standard, off-the-shelf solutions that may disadvantage certain environmental users and, in some cases, even increase competition and conflict over environmental resources. In yet more cases, the solutions may marginalise local people against accessing key environmental resources that are vital for their livelihoods.

In wetland environments like the Okavango Delta, global framings and discourses present these landscapes as not only unique and therefore requiring preservation, but also as fragile and at risk of ecological collapse due to threats from particular human activities such as farming and fishing. The solutions are often framed around strict conservation or neoliberal approaches that exploit the maximum true commercial (market) value of such resources as appropriate land uses. In the Okavango Delta, as in other places in southern Africa, ecotourism is seen as the ideal solution to the twin goals of conservation and development. By investigating the links between changes in local access to and control over environmental resources resulting from increasing state intervention and regulation, and the parallel promotion of commercial tourism, this thesis will show how global environmental discourses and frameworks have aided this process. It will illustrate how the interventions of institutions such as IUCN, Conservation International and the GEF have facilitated strict control and regulation of local uses of the environment, and legitimised commercial tourism uses because these are seen as more compatible with conservation goals.

The discourses on sustainable utilisation of natural resources, and especially the CBNRM debates, have strengthened the view that the Okavango Delta landscape can be simultaneously 'natural' and 'productive' (Wolmer 2007), although the visions and narratives of a fragile and threatened landscape remain part of the discourse, and continue to facilitate a continuing marginalisation of 'traditional' uses of the environment. The significant contribution of the commercial tourism industry to Botswana's economy therefore supplies anew the justification for a (re)capture of environmental resources by government agencies and conservation organisations for conservation and eco-tourism, the benefits of which accrue to the same users. Neither conservation nor tourism are in this context seen as problematic, but are rather promoted as legitimate and more sensible ways of using the Okavango Delta wetland ecosystem. The political economy of these conservation practices at both the global and local levels do not, however, receive sufficient attention in terms of how they reconfigure or reshape the governance of local environmental resources and how they produce winners and losers, or who these winners and losers are.

This thesis therefore makes two main contributions to knowledge and literature on the politics of conservation and development. Firstly, it unpacks the global public goods (GPG) approach and what it means when applied to local-level contexts. Secondly, it highlights the political economy of biodiversity conservation by presenting an empirical analysis of the dynamics shaping biodiversity conservation in the Okavango Delta, and the local-level outcomes for natural resource-based livelihoods and the communities living in and close to conservation areas.

The GPG approach to biodiversity conservation shapes the interventions and activities of international conservation actors in local landscapes. But what does providing a GPG actually mean at the local level where implementation occurs? To closely understand this, a nuanced, context-specific, empirical study like this one reveals the outcomes of the linkages between the global frameworks for producing GPGs and the complex dynamics shaping their implementation and outcomes. This study unpacks the GPG approach and shows how it has been unhelpful in the Okavango Delta context as it has facilitated increased competition and conflict between different resource-users over certain environmental resources perceived as fragile and threatened. It draws a clear picture of the winners and losers resulting from the implementation of international conventions such as the Ramsar Convention and the UNCDB by institutions and organisations such as the GEF, Conservation International, IUCN and others affiliated with them. It reveals how the alliances between local business elites and international conservation organisations have yielded the most gains for groups that are already economically and politically empowered at the expense of poorer ones. The thesis therefore shows how the GPG approach, while useful at the global level for promoting international cooperation over the management of global environmental problems, becomes problematic in local contexts where the dynamics shaping access to, use of and control over resources are more complex and characterised by power asymmetries, competition and conflict.

This study also contributes to increased knowledge and understanding of the dynamics shaping political decision-making and development policy implementation in Botswana. Through the conservation and development lens, the study highlights the importance of understanding the role of power and the political interests of elite groups and their role in controlling economic wealth and productive resources in shaping a particular development pathway in Botswana. It also shows who the winners and losers are in this process. In particular, this study adds to the growing literature on the Okavango Delta's conservation and tourism development that has come out of work conducted by the multidisciplinary research institute in Maun and the Okavango Research Institute (see for example Mbaiwa 2003, 2004, 2005; Mbaiwa, Ngwenya and Kgathi 2008; Magole 2008, 2009; Magole and Magole 2009; Kgathi, Ngwenya and Darkoh 2011; Mmopelwa et al. 2009), which has documented the socio-economic, political and ecological dynamics shaping the use and management of the Okavango Delta resources. This thesis contributes new, comprehensive insights and analysis that highlight the role of both global and local dynamics in shaping the practices and outcomes of environmental conservation and development in the Okavango Delta.

1.4 Thesis structure

The thesis is organised into seven chapters. Following this introduction, Chapter 2 outlines the conceptual framework and methodological approach that guided the research. A number of themes are explored, largely within the broader framework of political ecology. Emphasis is given to the way in which unequal power relations and the political interests of different resource-users characterise conflicts and contestations over access to, control over and use of resources in the Okavango Delta. As argued by Bryant (1998:87) and others writing on political ecology (e.g. Blaikie and Brookfield 1987; Peet and Watts 2004), 'power relations are reflected in conflicting perceptions, discourses and knowledge claims about development ecological processes'. Within this framework, themes of power/knowledge, institutions and exclusion, common property resource management and 'community' are explored to illuminate the nature of people-environment relations.

Chapter 3 presents an overview of Botswana and the Okavango Delta, and outlines historical changes in the perception and use of the resource by different actors at the policy and development levels. It shows how the shifting visions or 'ways of seeing' (c.f. Wolmer 2007) the Okavango Delta have shaped both its politics and ecology. The chapter also introduces key events, policy developments and decisions that contributed to the 1997 listing of the Delta as a Ramsar Site, and how these contributed to the shift towards strict conservation.

Global discourses around biodiversity conservation are examined in Chapter 4. The chapter also unpacks the influential concept of global public goods and shows how this approach has shaped the discourses and practices of international conservation organisations in environmental management. Specifically, it looks at the role of these discourses in facilitating policy shifts towards strict management of biological diversity, and how Botswana as a country has positioned itself in this debate regarding the use of the Okavango Delta *vis-à-vis* the rest of the basin, as well as local positionings regarding appropriate land uses.

Chapter 5 explores the resulting changes in national environmental policy and practice in Botswana, and towards the Okavango Delta, the role played by global discourses of environmental change and the political interests of key groups and individuals in shaping this change. It assesses how these policies translate on the ground in shaping the natural resource-based livelihoods of the Okavango Delta communities. In particular, it presents evidence from my fieldwork to reveal how these policies and the interests behind them have served to restrict access to and control over wetland

resources by subsistence farmers, fishers, hunters and collectors of wild grasses, and how the benefits and costs of the resource have been unequally distributed in society.

Chapter 6 then uses the case of fishing to highlight the specific links between government fishing policy and management practice and the global narratives and discourses of wetland degradation and biodiversity loss. It shows in detail how perceptions of the Delta's fisheries have shifted over time from being viewed as an abundant, common pool resource to an increasingly scarce resource with the same status as the African elephant: threatened and requiring legal protection. Although the conflicts that have arisen due to this change in status are about access to specific fishing grounds, stocks and species, they in fact reflect unequal power relations and diverging interests in environmental debates and the exploitation of wetland resources (wildlife, reeds, grass and land) by different groups, households and individuals in the Delta. By exploring the influence of conservation narratives and asymmetrical power relations, as well as the uneven distribution of costs and benefits from the exploitation of fish, the chapter highlights how the negative impacts of conservation have mainly been borne by poor rural communities, and the primary benefits have largely accrued to the private tourism industry and the state.

The final chapter draws together the arguments raised in the thesis and reflects on how global agreements such as the Ramsar Convention and the UNCBD are mediated by the broader political economy of control over wealth, land and other environmental resources in Botswana, and the situated micro-politics that shape their implementation to produce a particular political ecology. It reiterates that the discourses, narratives and interventions of international institutions such as the IUCN, the GEF and UNDP are often appropriated by certain groups at the local level to advance their political and business interests and to claim more control over access to and use of resources. The strong visions and narratives of a 'fragile' Okavango Delta landscape and ecology help to intensify strict conservation controls and regulation of the land-use practices of local communities while at the same time legitimising and promoting a commodification of the Okavango Delta's resources for commercial tourism.

Chapter 2
Conceptual framework and methodological approach

This research adopts an integrated approach that combines themes within the broad concept of political ecology. Political ecology is suitable here as it concerns itself with a number of topics and a range of definitions of human-environment interaction. As Robbins (2004: 5) notes, 'some definitions stress political economy while others point to more formal political institutions; some identify environmental change as most important, while others emphasize narratives or stories about that change'. Specifically, political ecology highlights the role and importance of power asymmetries and unequal relations of power between different groups and individuals in explaining human-environment interactions (Adams 2009). Through this lens, this study hopes to highlight both the importance of different social forces in conflict, as well as the role of the state in shaping patterns of resource access and management (Bassett and Crummey 2003).

2.1 Political Ecology

Central to political ecology is the observation of politics in explaining the interaction between people and nature (Adams 2001). It 'examines the political dynamics surrounding material and discursive struggles over the environment' (Bryant 1998:79). Adams (2009) argues that political ecology also emphasises that the way nature is understood as political, and that the state of nature needs to be understood materially as the outcome of political processes. Bryant and Bailey (1997) note that an earlier political ecology emerged as a way of avoiding the perceived apoliticism of work by many cultural ecologists and neo-Malthusian writers, and was situated within a structural framework informed by neo-Marxist ideas to explain human-environment relations. According to Bryant (1998), at the time this focus on structure tended to downplay the ability of weaker grassroots actors to resist their marginal status against politically and economically stronger actors, as many scholars have ably shown (Scott 1985; Peluso 1994; Peluso and Watts 2001). Adams (2001) posits that political ecology later became more complex and showed a greater awareness of discursive dimensions of environment-society interactions as well as of the role of grassroots actors and social movements in these struggles. He argues: 'social movements emerge as 'creative reactions' to different understandings over the environment and while the struggles that emerge may be material struggles about survival or livelihoods, they are also struggles about the ways in

which people speak and think about and organise understandings of human and non-human nature' (Adams 2009: 208).

The newer political ecology draws on post-structuralism and discourse theory in explaining how knowledge and power may interrelate in shaping political-ecological outcomes (Bryant 1998). As will be discussed in the section on Power/Knowledge below, 'the relationship between power and knowledge is not oppositional but rather, mutually constitutive' (Haugaard 2002:181), as has been advanced by the work of Michel Foucault (e.g. in his work *Power/Knowledge* from 1980). Adams (2009: 206) argues that 'the ways in which different people experience the environment, derive their understandings and develop discourses about it vary, and differences of view (whether between people with different bundles of rights, or between those with different claims to environmental knowledge such as scientists and lay people) interact in a political process'. Discourses shape the way people think about problems, and can be seen as an exercise of power by some people and organisations in specific settings and periods of time, often against others (Apthorpe 1986). Keeley and Scoones (2003: 21) argue that discourses often link different issues 'in highly programmatic, narrative, cause-and-effect form'. The key concern is who has the 'power to define'; 'dominant discourses work by setting up the terms of reference and by disallowing or marginalising alternatives' (Shore and Wright 1997: 18). It is therefore important to understand how environmental problems are framed and constructed, and, in particular, the roles played by science and policy and other key actors in explaining these 'problems' and the outcomes of these processes for different users of the environment.

'Policy has a more diffuse impact when, through metaphors of the individual and society, it influences the way people construct themselves, their conduct and their social relations as free individuals' (Shore and Wright 1997: 5). This research adopts a view of policy that departs from the conceptualisation used by early policy studies of present policy as a linear, rational and apolitical process designed to provide technical solutions to policy problems (see reviews by Thomas and Grindle 1990; Sutton 1999). It instead adopts a conceptual framework that sees policy as an inherently political process, originating from multiple directions and reflecting the political and personal interests of specific groups and individuals (see Leach and Mearns 1996; Shore and Wright 1997; Sutton 1999; Keeley and Scoones 2003; Forsyth 2003). Policy is also seen as discourse, and the role of language in policy-making, particularly in depoliticising and rationalising policies, is closely examined in this thesis (Apthorpe 1986, 1997; Shore and Wright 1997; Keeley and Scoones 2003). As Apthorpe (1997: 34) points out: 'the language of policy functions as a type of power'.

'Language as policy and power is exercised through genres or, as we will also say, 'styles' of expression' (Ibid: 44). This language is seemingly objective, scientific and neutral: 'this masking of the political under the cloak of neutrality is a key feature of modern power' (Shore and Wright 1997: 8). As Keeley and Scoones (2003: 23) argue, policies can in this way be viewed as 'political technologies' enmeshed in the relations of power between citizens, experts and political authorities. These 'political technologies advance by taking what is essentially a political problem, removing it from the realm of political discourse, and recasting it in the neutral language of science' (Dreyfus and Rabinow, cited in Shore and Wright 1997: 9). However, as Goodman et al., (2008: 5) argue: 'Just beneath the thin yet oft-authoritative veneer of 'crisp' science and eco-political discourses are variegated, messy and contentious interactions of knowledge, power and ideology'. Yet, despite being highly contested, many scientific 'facts' continue to inform environmental policy, particularly in the developing world.

A good example is the tragedy of the commons thesis, which informs debates about desertification, deforestation and erosion, overgrazing and rangeland degradation, among others (see Nelson 2010; Bassett and Crummey 2003; Leach and Mearns 1996). Although this concept has been shown to be flawed many times over, such views of the causes of environmental change and problems 'stick with tenacity in policy debates' (Keeley and Scoones 2003: 1), and, as this research shows, remain powerful to date, especially in Africa. Leach and Mearns (1996) refer to these institutionalised, but highly-criticised conceptualisations of environmental degradation as 'environmental orthodoxies' (c.f. Forsyth 2003). They have also been referred to as 'environmental narratives' (Roe 1991) and 'environmental storylines' (Hajer 1995). 'By making 'stabilising' assumptions to facilitate decision-making, narratives serve to standardise, package and label environmental problems so that they appear to be universally applicable and to justify equally standardised, off-the-shelf solutions' (Leach and Mearns 1996: 8). Environmental orthodoxies, according to Forsyth (2003: 37), are often vague statements or 'received wisdom' rather than narrowly defined scientific theory or hypotheses. Forsyth argues that similar environmental 'myths' or meta-narratives exist in other areas of the environmental debate, such as in assumptions concerning gender and other social divisions, debates about environmental 'fragility' or 'crisis', or the supposedly 'global' nature of environmental problems. These claims, as Forsyth argues, may suppress a number of important differences and insights at the local level that could either contribute to understanding the nature of risks, or indicate the local meaning attached to the environmental changes that are often referred to as problems. This is not to argue against the existence of such environmental problems (e.g. global problems), but to point out that they should be questioned. Forsyth also argues that many common scientific

approaches to these problems reflect 'local' rather than 'global' perspectives (Forsyth 2003: 171). As Funtowicz and Ravetz (1990, cited in Goodman et al. 2008: 5) argue, 'the contemporary spaces of knowledge, power and ideology – centred as they are on Western scientific knowledge creation and dissemination – are highly contested, characterised by uncertain facts, politicised interpretations of science, disputed values and intensely debated alternatives'.

Along these lines, Tim Forsyth's (2003) *Critical Political Ecology* approach to environmental explanation seeks to achieve social justice in environmental policy by questioning the simplistic separation of science and politics. Its key ambition, according to Forsyth, is instead 'to adopt a more politically-aware understanding of the contexts within which environmental explanations emerge, and are seen to be relevant' (p.21). This requires an analysis of the co-evolution of science and politics in understanding environmental explanations (c.f. Keeley and Scoones 2003). In this 'coproduction' of scientific and social order (Jassanoff 1996: 397), 'the processes by which knowledge, including scientific knowledge, is framed, collected, and disseminated through social interaction and change, and how such knowledge also impacts upon such change' is an important action regarding the generation and legitimisation of scientific knowledge (Forsyth 2003: 104). As Peet and Watts (1996: 6) observe, 'central to the new political ecology is a sensitivity to environmental politics as a process of cultural mobilisation, and the ways in which such cultural practices – whether science, or ''traditional'' knowledge, or discourses, or risk, or property rights - are contested, fought over and negotiated'.

In this section I attempt to discuss several themes that the political ecology framework addresses and highlights as important for explaining human-environment interactions. The discussion is however not exhaustive, as political ecology deals with many aspects of human-environment interaction, many of which defy easy classification. The particular focus that this study takes is that of understanding questions of *access* and *control* over ecological resources, how these are shaped by unequal power relations and political interests of groups and individuals, and the distribution of the costs and benefits of environmental exploitation within society.

2.1.1 Power/Knowledge

The consideration of the concept of power as an important factor in this study requires elaboration. But what is power, and how does it shape human-environment interactions? Political ecologists understand it as 'the ability of an actor to control their own interaction with the environment and the interaction of other actors with the environment' (Bryant and Bailey 1997: 39). As Adams (2009:

208) argues, 'in the politics of ideas about nature and society, some sets of ideas are more powerful than others…' Bryant and Bailey (1997: 39) further point out that to appreciate the role of power in shaping patterns of human-environmental interaction, 'it is necessary to adopt a more inclusive understanding of power that encompasses material and non-material considerations as well as the apparent fluidity of power itself'.

Defining power is not an easy task: 'this entails that when we use the concept in different contexts its meaning changes sufficiently so that there is no single definition of power which covers all usage' (Haugaard 2002: 1). Power is itself a contested concept. According to Haugaard, however, there is a common understanding of what power is amongst the different groups of theorists who write about it. He states:

> Within these groups, there are generalised perceptions of power which seem to dominate. These include: power 'over' and power 'to' (analytic), 'conflictual power' and 'consensual power' (social theory of the modern variety), and power as constitutive of reality (post modern social theory). Power 'over' entails the ability of one actor to prevail over another despite resistance whereas power 'to' is power as a generalised capacity as in 'A has power to make x happen'. To an extent, conflictual and consensual power mirror power 'over' and power 'to' respectively but, because they are couched within an empirically based theoretical system, the objective is not so much to clarify what we mean by power 'over' or 'to' but to characterise the general nature of social life… (2002: 4).

This study borrows largely from Foucault's conceptualisation of power, as discussed in works such as *Power/Knowledge* (1980) and *The Subject and Power* (1982). One of the ways that Foucault engaged with the concept of power was in trying to understand, or, in his words 'create a history of the different modes by which, in our culture, human beings are made subjects' (1982: 777). Furthermore, he points out that the term 'power' designates relationships between partners, individuals or collectives, and the exercise of power is a way in which certain actions modify others'. In this way, he argues that power therefore only exists when it is put into action, and does not exist universally in a concentrated or diffused form (p. 788). In explaining the specific nature of power, he writes:

> Power only exists when it is put into action, even if, of course, it is integrated into a disparate field of possibilities brought to bear upon permanent structures. This means also that power is not a function of consent. In itself it is not a renunciation of freedom, a transference of rights, the power of each and all delegated to a few (which does not prevent the possibility that consent may be a condition for the existence or the maintenance of power); the relationship of power can be the result of prior or permanent consent, but it is not by nature the manifestation of a consensus (1982: 788).

How power is exercised is therefore of particular interest to Foucault:

> In effect, what defines a relationship of power is that it is a mode of action which does not act directly or immediately on others. Instead, it acts upon their actions: an action upon an action, on existing actions or on those which may arise in the present or in the future (1982:789).

There are therefore many ways in which power may be exerted by one actor to modify the human-environment interactions of another actor, as Bryant and Bailey (1997: 39-47) outline. 'The obvious one may be an attempt by an actor to control the access of other actors to environmental resources' (p.37). As they argue: 'The objective here may simply be to monopolise a valued environmental resource so as to ensure that the economic benefits associated with the exploitation of the resource in question accrue largely, if not exclusively, to the actor'. How the costs and benefits of environmental exploitation and environmental problems are distributed in society, therefore, requires close analysis, as often the poor and marginalised are hardest hit by the costs while the more powerful actors capture most of the benefits. 'An actor may also seek to exert control over the environment of others in an indirect manner through discursive means. Power is about the control over material practices, but it is also linked to the attempted regulation of ideas…power is partly a matter of 'winning the battle of ideas' over human use of the environment' (Bryant and Bailey 1997: 41). As Foucault (1980, cited in Keeley and Scoones 2003: 37) argues, 'ideas, concepts and categorisations are expressions of knowledge and power', *'controlling human subjects by the definitions and categories imposed upon them'* (Keeley and Scoones 2003: 37) (emphasis added). As will be shown in Chapters 5 and 6, categories have been employed to single out certain groups and their environmental practices as unsustainable and therefore requiring regulation. For instance, a group of local fishers in the Okavango Delta was officially labelled 'commercial' in 2008; in this way their activities were singled out as over-exploitative of the resource by both state agencies and private tourism companies and accordingly regulated through policy and legislation. Degradation narratives were also used in the mid-1970s to vilify smallholder pastoralists as the cause of rangeland degradation. As a result, a privatisation of grazing commons was proposed as the policy solution, resulting in widespread elite capture of land and water resources throughout rural Botswana.

Understanding the role of actors and their interests in environmental use therefore becomes a primary task in understanding contestation and conflict (as well as cooperation). An actor-oriented approach conceptualises such conflict and cooperation as an outcome of the interaction of different actors pursuing often quite distinctive aims and interests (Bryant and Bailey 1997). As noted earlier, the role of the state in directing, legitimising and exercising power and control is also an important theme (Adams 2009; Forsyth 2003; Peet and Watts 2004; Robbins 2004). As this study will show,

interests differ starkly in the Okavango Delta. While subsistence fishers and farmers pursue the basic goals of household food and income security by abstractive and consumptive uses of the environment, those in tourism pursue the line of maximum profit from 'non-abstractive' uses that are to some extent in line with the goals of those pursuing conservation, in particular national government institutions and international conservation NGOs. These different interests give rise to conflict between the different uses and actors at many levels: subsistence farmers and fishers against conservation; tourism against subsistence use; local practices against state policies and so on. The role of state policies and laws in mediating these relationships is significant, and their deployment can be viewed as a form of rural control. As will be shown in Chapter 3, sometimes the interests of different groups converge and cooperation emerges, albeit perhaps only temporarily, if there is a perceived common threat to those interests. Forsyth (2003: 139), however, warns against 'the essentialisation of actors into pre-identified positions in environmental debate as it may overlook the possibility for certain actors to perform roles in ways such a categorisation suggests as unusual'. As Long (1992: 22) argues, 'we should be able to recognise multiple realities and diverse social practices of actors – their ongoing life experiences accounting for differing applications of knowledge, power and agency'.

As noted above, power is fluid and shifts in different contexts. It is therefore 'not only the *amount* of power that makes a difference, but the possibility of gaining an edge over others and using it to advantage' (Long and Villareal 1994: 50) (emphasis in the original). Many examples have been documented where weaker grassroots actors have been able to resist the control of more powerful groups (e.g. Peluso 1994).[5] The weak exercise this power through their 'everyday forms of resistance' (Scott 1985), which are often difficult to see and therefore to rigorously police (Bryant and Bailey 1997). As discussed in the preceding section, knowledge and power can be seen as two sides of the same coin (Foucault 1980). Foucault argues that power produces knowledge: 'the exercise of power perpetually produces knowledge and, conversely, knowledge constantly induces effects of power' (1980: 52). Haugaard (2002: 185) points out that what interests Foucault is not the surest path to truth, but rather, how truth is used to pacify others by privileging certain ways of interpreting the world and particular discourses, while disqualifying others. As Foucault argues, 'power is a form of pacification which works by codifying and taming war through the imposition of particular knowledge as truth' (Ibid; c.f. Keeley and Scoones 2003). Long and Villareal (1994:

[5] Peluso's work entitled *Rich Forests, Poor People: Resource Control and Resistance in Java* (1994) is a good example of how local resource-users use their collective power and 'everyday forms of resistance' (Scott 1985) to gain control over important livelihood resources.

49) also argue therefore that, like power, knowledge 'emerges out of processes of social interaction…' and '…is essentially a product of the encounter of horizons'. This then means in the same manner that power is understood (i.e. as relational), knowledge must also be looked at relationally, and not treated as a commodity. But as Long and Villareal (1994: 49) also argue, 'nevertheless, both power and knowledge may become reified in social life: that is they are thought of as being real material things possessed by agents and regarded as unquestioned 'givens' and 'this process of reification is an essential part of the ongoing struggles over meaning and control of strategic relationships and resources…'. The convergence of power/knowledge and political interests in shaping access to and control over environmental resources therefore becomes central to the debate.

2.1.2 Political Interests, Power and the Politics of Access and Control

Access to and control over natural resources, and therefore 'the ability to derive benefits from them' (Ribot and Peluso 2003: 153), is mediated by institutions, power relations, assets and capabilities of households and individuals. Therefore, 'access retains an empirical focus on the issues of *who* does (and who does not) get use of *what*, in *what ways,* and *when* (that is, in what circumstances)' (Neal 1998: 48, cited in Ribot and Peluso 2003: 154) (emphases in the original). As Chapter 5 and 6 will show, subsistence fisher-folk, small-scale farmers, female-headed households, unmarried women, older women and ethnic minorities are some of those weaker grassroots actors who struggle against more powerful actors such as the state, the cattle elites, the private tourism industry, recreational fishers and dominant tribes for access to natural resources in the Okavango Delta. Thus, understanding the interests and practices of different groups, and the institutions in which they participate gives insight into how power relations shape different actors' access to and control over environmental resources, and what the outcomes of these struggles are.

Ribot and Peluso (2003: 160) refer to the means, processes and relations through which actors are enabled to gain, control and maintain access to resources as 'mechanisms'. These access mechanisms may be rights-based or illicit. 'Access analysis therefore helps us understand why some people or institutions benefit from resources, whether or not they have rights to them' (Ibid). As noted by Bebbington (1999: 2022): '[…] *access* becomes perhaps the most critical resource of all if people are to build sustainable, poverty alleviating rural livelihoods'. According to Ribot and Peluso (2003: 173), 'access in this context is more akin to 'a bundle of powers', locating these 'powers' within the social and political-economic contexts that shape people's abilities to benefit from resources'. Ribot and Peluso's theory and analysis of access contrasts to and expands beyond

the 'bundle of rights' notion of property, and they note the key distinction between access and property as lying in the difference between 'ability' and 'right' (p.155). 'Ability' is akin to power, defined as 'the capacity of some actors to affect the practices and ideas of others, and power seen as emergent from, though not always attached to people' (p.156). Sikor and Lund (2009: 2) point out, however, that 'not all forms of power to decide who gets access to what resources and benefits, and on what terms, are legitimised with equal effect'. As Ribot and Peluso (2003: 156) elaborate, 'access is about *all* possible means by which a person is able to benefit from things, while property generally evokes some kind of *socially acknowledged and supported* claims or rights – whether that acknowledgement is by law, custom, or convention' (p.156) (emphases in the original). This, however, is not to deny the importance of property rights for access to things, as 'rights-holders do enjoy a degree of social power' through which access is also gained, controlled and maintained (Ribot and Peluso 2003: 156). As Sikor and Lund (2009: 2) also argue: 'Issues of access and property are joined to questions of power and authority'. They note that: 'people attempt to consolidate their claims to land and other resources in various ways, often in pursuit of turning their access to resources into recognised property' (Ibid).

Policy is a consequence of political interactions and often reflects certain political interests (Keeley and Scoones 2003). In Botswana, these political interests, some individual, others group, intermingle with formal state institutions to influence policy outcomes. As Picard (1980: 314) observes: '…in many African countries, national and local government employees are to all intents and purposes the dominant socio-economic elite of the country'. Picard's study of Botswana's policy on land and water management put in place in 1975 shows how 'the bureaucracy as a class are both actors in the formulation of a public policy and major beneficiaries of the policy they have helped to formulate' (p.316). As will be shown in Chapters 5 and 6, the personal interests of the political, business and policy elite significantly influence policy and resource access in the Okavango Delta. As Rihoy and Maguranyanga (2007: 7) argue, 'whilst all the trappings and institutions of a liberal democracy are in place in Botswana, these are often manipulated by the ruling elites, both through the Constitution and through contemporary practices of the ruling party'. Similar observations are made by Kenneth Good (2008), an Australian national and former professor of political science at the University of Botswana, who famously criticised Botswana's political system as authoritarian, and highlighted in particular the concentration of executive power in one person: the President, who is unelected. The lack of free speech and the curtailment of the freedom of the media, the pervasiveness of secrecy in government decision-making and the inability of the government to accept or engage with criticism are also identified in the work of Good and

Taylor (2006) and others such as Pegg (2005) as some characteristics of Botswana's repressive rule. The Government of Botswana, through the court system, expelled Professor Good and declared him a Prohibited Immigrant (PI) to Botswana in 2005 because of his public criticism of Botswana's political system[6] and of certain individuals within it, who often use official government processes for political or personal gain. The role of party politics and group interests of the ruling elite in shaping the practices of the bureaucratic system has become significant over the years. Writing in 1980, Picard (1980: 317) noted: 'Such members of the Botswana Democratic Party[7] as senior level administrators, are representative of an educated, cattle-owning elite which controls much of the cattle industry and related sectors of the domestic economy…outside of Parliament and the electoral process, party elites do not represent a separate set of actors in the policy-making process'. The key issue, as pointed out by Nelson (2010: 13) is that 'both informal patronage relations and formal state institutions such as laws and policies are relevant to governance, and that ignoring either the formalistic, bureaucratic, 'visible' realm, or the informal, personalised, 'hidden' realm is likely to lead to misunderstandings about misinterpretations of governance processes and outcomes'.

Policy decisions are influenced by specific individuals and organisations that push particular ideas and discourses about how resources should be used and managed, even if they may be inappropriate in that context. However, if these ideas and discourses are pushed by influential individuals and organisations and can be 'transmitted and transformed through networks of different actors' (Keeley and Scoones 2003: 24) then they become difficult to reject. Here, the role of 'epistemic communities' and 'boundary organisations' in shaping national policy becomes important to the debate. Haas (1992: 3) defines an epistemic community as 'a network of professionals with recognised expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area'. Boundary organisations, according to Forsyth (2003: 77), may be defined as 'social organisations or collectives that sit in two different worlds, such as science and policy, and can be accessed equally by members of each world without losing identity'. In Botswana's environmental policy-making, this role has been played significantly by environmental NGOs and private consultants with a physical presence in Botswana and elsewhere. As Chapter 3 will show, Greenpeace International and IUCN have been instrumental in shaping changes in the policies of the Government of Botswana towards the Okavango Delta from those of

[6] I took Professor Good's courses on Introduction to Botswana Politics and Comparative Politics at the University of Botswana between 1999 and 2003.

[7] Botswana has been under the rule of the Botswana Democratic Party since independence (1966), led initially by President Seretse Khama as the first to occupy office. In April 2008, his son Ian Khama took over unelected office as President.

exploitation to those of strict conservation. While Greenpeace threatened to launch an international campaign against Botswana and its diamond industry if the project to build dams downstream of the Okavango Delta went ahead, IUCN produced scientific evidence to discredit the project. The Botswana Government responded by terminating the project, though it did not officially acknowledge the role of either IUCN or Greenpeace in facilitating this decision. Chapter 6 will examine the role of Conservation International in influencing the strict regulation of fisheries resources. Other groups and individuals influence policy on a smaller, everyday basis as consultants, scientific experts, influential business people and through other leadership positions. According to Keeley and Scoones (2003), epistemic communities achieve influence over policy because of the uncertainties that policy-makers face in the decision-making process: 'Where the community can convince policy-makers that there is uncertainty, or where they can take advantage of already perceived uncertainty, they can help shape the framing of problems and suggest appropriate solutions (p.36). In the context of Botswana, the expertise of these epistemic communities is often sanctioned by policy and law as long as it does not pose any threat to the interests of the ruling elite. The interests of those in power, therefore, often win over other interests and sometimes even over modern 'science', as will be shown in Chapter 6.

The criticisms that have been made against the concept of epistemic communities, especially its failure to acknowledge the contextual circumstances that facilitate the communication of particular scientific findings to policy-makers, have led Forsyth (2003) to argue for a political analysis that assesses who creates epistemic communities, and for which purposes, who is excluded and at what costs. He advances the concept of boundary organisations by arguing that 'the attraction of the boundary organisation concept is that it acknowledges both structure and agency of political actors working within wider discourses, and the dynamic way in which organisations may establish common norms between scientific and political networks' (Forsyth 2003: 142). An analysis of the epistemological implications of boundary organisations may therefore indicate how science networks or controversial environmental explanations are defined and enforced through the actions of specific organisations or political actors (Ibid).

While the state's role in shaping human-environment interactions is realised through its policies, at the local level, community dynamics and social relations also play a significant role in regulating access to resources. Institutions may act as enablers or as barriers to accessing environmental resources; they may enhance or struggle against formal state policies in playing this role. It is therefore imperative to understand how local-level relations regulate human-environment

interactions, when, how and why individuals and groups cooperate and compete for the use and management of resources, and what outcomes these give rise to.

2.1.3 Institutions and Exclusion

As noted by scholars such as Berry (1989), Chambers and Conway (1992), Scoones (1998), Bebbington (1999) and Ribot and Peluso (2003), people's ability to generate a livelihood or increase their assets depends on their access to productive resources and their ability to control and use them effectively. Berry (1989: 41) argues that: 'access depends, in turn, on participation in a variety of social institutions, as well as on material wealth and market transactions'. As Chapters 5 and 6 will show, poor women from female-headed households depend on social relations such as forming grass-collection groups to access harvesting sites that are otherwise risky to visit alone for safety reasons. Equally, men who fish for the market go on fishing trips in groups to collectively reduce the risks associated with such activities. Through these groups, they also share information about rich harvesting sites and new harvesting methods, information that may not be available to those outside the group. In some cases, other members of the community are not able to access certain resources because they lack the required skills for farming, weaving baskets or hunting. Institutions therefore mediate human-environment interactions by acting as constraints or enablers to access certain resources (Leach et al. 1999).

Institutions have been defined in many ways, reflecting different disciplinary perspectives and theoretical traditions, and some of these definitions have also been contested, and reviewed. While some researchers have presented an institutional-economic model of institutions (e.g. North 1990; Ostrom 1990, 1992) 'which tended to view institutions in functionalist and managerial terms' (Mehta et al. 1999: 13), others present perspectives from anthropological and sociological approaches that suggest that institutions should be seen as dynamic and processual, and therefore less static or fixed (Berry 1989; Mosse 1997; Cleaver 2000; Mehta et al. 1999; and Leach et al. 1999, among others). This study adopts the latter perspective of institutions as deeply-embedded in social relations and practices, and as changing over time and space (Mehta et al. 1999).

Unlike institutional-economic perspectives (e.g. North 1990; Ostrom 1990, 1992)[8] that simply see institutions as the 'rules of the game' or as 'sets of working rules or rules in use' governing human interaction, alternative approaches see institutions as regularised patterns of behaviour that are

[8] Ostrom's recent works, however, address issues of unequal power relations, exclusion and difference in human-environment interactions (e.g. Ostrom 2005).

reproduced, transformed and subverted through interactions and negotiations between actors (Mosse 1997; Cleaver 2000; Mehta et al. 1999; Leach et al. 1999). Cleaver (2000: 365-366) makes an important point in arguing that 'the evolution of collective decision-making institutions may not be the process of conscious selection of mechanisms fit for the collective action task as the institutional-economic approaches suggest, but rather the outcome of individuals acting within the bounds of circumstantial constraint'. Mosse (1997: 470) argues that the specificity of local socio-cultural forms, their historical particularity and the historically-specific structures of power, rather than simply calculated payoffs, underlie the norms and conventions of collective resource-use, and account for the occurrence and persistence of local institutions of resource-use. As Chapters 5 and 6 will show, historically, the resource-use practices of fishers and grass and reed collectors both regulated access to resources and served the purpose of conserving them. Hunting, among some local communities of the Okavango, was, for instance, reserved for adult men, who only hunted at a particular time of the year (usually winter), using specific hunting methods. Only old, injured and disabled animals were hunted, leaving productive animals to reproduce.[9] Breaking the 'rules' carried the punishment of being excluded from the community's hunting-party, and one's status as a hunter being removed. Prior to the introduction of modern management systems by state agencies, these were the kinds of practices that shaped human-environment relations and regulated access to resources in the Delta.

Mehta et al. (1999: 7) argue that 'resources need to be viewed as both material and symbolic products, rooted in contests of power, with institutions emerging as sites of social interaction, negotiation and contestation comprising heterogeneous actors having diverse goals'. The access-mediating role of institutions plays out in different contexts and may be characterised by either exclusion or inclusion, based on different qualifications such as social status and identity. Access to productive resources may therefore be based on qualifications such as age, gender, ethnicity, religion, status, profession, place of birth or origin, common education and many other attributes that constitute social identity (Ribot and Peluso 2003; Berry 1989). As noted by Rocheleau et al. (1996: 4): 'Gender, interacting with class, caste, race, culture, and ethnicity to shape processes of ecological change, is a critical variable in shaping resource access and control'. Understanding gender and its role in rural poverty is particularly important in the southern African context, and in a country like Botswana, with its high numbers of female-headed households. Although many men in rural Botswana are also poor, as many do not form parts of households at all, 'women-headed

[9] Discussion with elders in Seronga village on the traditional use of natural resources, 22 September 2008.

households are more likely to be poorer than those headed by men, they are poor in different ways, perhaps more vulnerable and certainly less likely to be rich' (O'Laughlin 1998: 3). Chapters 5 and 6 will analyse social status and identity, which play a significant role in determining who accesses what types of resources and how. Often adult men, with business and political connections, occupy positions of authority in community-based organisations (such as committees and boards of trustees), through which they are able to have privileged access to authority and, in turn, to benefits accruing from resources. A study of livelihood vulnerability and resilience by Sallu et al. (2010) in two settlements in Botswana found that each community had a small number of households with a tendency to specialise and thus accumulate large numbers of livestock. They describe these households as 'accumulators', and find that as well as occupying financially superior positions within communities, accumulators were often politically powerful: most either currently or in the recent past had assumed a leadership role such as village chief, councillor, or village committee chairperson in the settlement. This sector of society therefore represented a politically- as well as an economically-influential part of the community, similar to Peters' (1984)[10] 'rural elite'. Social institutions have also informed development and natural resource management policy and practice, and remain central to debates on common property resource management and conservation.

2.1.4 Common Property Resources (CPR) and Community Conservation

Garrett Hardin's (1968) tragedy of the commons thesis has been instrumental in the development of common property resource theories, which emerged as a critique of his views and conceptualisation of human behaviour in situations where resources are used collectively. Hardin's argument is that in such situations, individual needs to maximise use of the commons would lead to ecological collapse. Many scholars have criticised this argument for failing to recognise the difference between open-access situations, where there are no defined property rights to govern access and use, and common property, defined as 'a distribution of property rights in resources in which a number of owners are co-equals in their rights to *use* the resources' (Ciriacy-Wantrup and Bishop 1975, cited in Lawry 1990: 405) (emphasis in the original). Common Property Resource Management (CPRM) and New Institutional Economics (NIE) theories argue that communities dependent on common property resources have always adopted various institutional arrangements to manage those resources, with varying degrees of success in achieving sustainable use (Berkes et al. 1989; Bromley and Cernea 1989; North 1990; Ostrom 1990). Although shown to be flawed, Hardin's

[10] Peters (2004: 271) argues: 'In an African setting, widespread appropriation by elites must be situated within broader processes of inequality and class formation, as well as within what commentators call new forms of governing'.

(1968) thesis has continued to influence land and natural resource policies, particularly in Africa. As Chapters 5 and 6 will show, Botswana's land-use policy, developed in 1975, and the fisheries regulations and policies, developed in 2008, both drew their rationale directly from Hardin's thesis.

The conventional conceptualisation of institutions has informed many policy and donor actors to establish Community-Based Natural Resource Management (CBNRM) organisations since the late 1980s. Despite this, the concept of 'community' in natural resources management is rarely defined or critically analysed (Agrawal and Gibson 1999). As Mehta et al. (1999: 15) argue: 'Community' tends to be promoted in corporate and homogeneous terms and issues concerning difference, power and politics, and even environmental variability are downplayed' (see also Leach et al. 1999). For instance, as Chapter 6 will reveal, the 2008 fishing regulations in Botswana identify 'commercial fishers' as a clear user-group whose practices can be regulated by policy, when in fact fishing is a practice characterised by high mobility, with different people entering and leaving the practice at different times for different reasons, making it almost impossible to identify a clear 'fishing community', especially in a situation where everyone is a fisher (see Béné et al. 2010; Jul-Larsen et al. 2010). As Chapter 6 will also show, new regulations that promote strict management of fishery resources have been shown to not only negatively affect the livelihoods of households that depend on fishing, but also to potentially alter the functioning of the wetland ecosystem (i.e. the fish population structure). The regulations limit physical access to the resource and directly reduce the fishing effort, and also restrict commercial fishing to only 'gill-net fishing', therefore facilitating the exploitation of a few species over others.

This homogenous view of community, which does not pay sufficient attention to social difference and diverse and often conflicting interests, is shown to be part of the reason for the failure of the CBNRM (Mehta et al. 1999; Leach et al. 1999; Ostrom 2005). As Dressler et al. (2010: 7) argue: 'CBNRM fostered intense relationships between local communities, conservationists and donors, thereby creating and institutionalising major political disjunctures in the intent and ideal of CBNRM'. Agrawal and Gibson (1999) therefore call for institutions that recognise and challenge these differences between communities and external actors, and within communities themselves. As Chapter 5 will show, in the Okavango Delta, many community-based organisations have been imposed from the outside on communities that are ethnically different, with unequal power and different natural resource-use goals, without any attempt to address these differences. These different goals and practices have in turn contributed to internal conflicts within communities and their community-based organisations. For instance, while the Basarwa/San communities in

Botswana historically hunted for subsistence and express the desire to continue hunting under the CBNRM framework, other communities are more interested in non-abstractive uses of wildlife resources for cash income (e.g. through photographic tourism or game viewing). Interests differ even at village levels, and among the same ethnic groups. Policy-makers and donor agencies initiating CBNRM programmes, however, continue to fail to recognise and accommodate these differences. Nelson (2010) also argues that in the past 20 years, CBNRM has as a result become a narrative used to create the implicit assumption of feasibly marrying rural development and biodiversity conservation goals, sometimes in the face of weak empirical evidence regarding the likelihood of achieving both outcomes in a given place and time. As Murphree (2002, quoted in Nelson 2010: 11) concludes about the southern African case: 'Most initiatives lacked the critical ingredient for success; the devolution of authority and responsibility through societally-sanctioned entitlements. Government and agency implementation retained ultimate power to shape objectives and control benefits; 'involvement' became compliance and 'participation' became 'co-option''. Dressler et al. (2010: 13), however, are of the view that hope for CBNRM may still exist, provided that social and environmental justice are prioritised over 'neoliberal logic'. They assert that 'this means ensuring that social inequity be redressed by identifying ways (with and) for marginal people to *access, use* and *control* locally valued natural resources with a sense of entitlement and political empowerment that also support conservation' (emphasis added). As I will discuss in detail in Chapter 5, the main common cause of the failure of reforms is the unwillingness at the political centre to divest authority over resources, as evidenced by Botswana's Department of Wildlife and National Parks' 2007 decision to re-centralise the CBNRM programme (Poteete 2009a; Rihoy and Maguranyanga 2010).

This section has discussed the conceptual underpinnings of the study under the broader framework of political ecology. It has explored the role of power/knowledge in resource distribution, access and control, and highlighted the importance of institutions and political interests in shaping frameworks of resource access. The role of science, narratives, discourses and environmental orthodoxies in informing and shaping decision-making and policy have been highlighted as important in understanding environmental policy and access to resources, particularly in the African context. This section has argued that political interests, particularly those of powerful groups and individuals, play a significant role in shaping policy outcomes. It has also discussed issues around common property resource management and problems facing collective management of local resources as rooted in managerial and functionalist approaches that fail to recognise the role of social difference and asymmetrical power relations in shaping outcomes.

As already noted in Chapter 1, biodiversity conservation is an inherently social and political process (Brechin et al. 2002; Lele et al. 2010), and although international conservation discourses and institutions tend to present it as technical and neutral, it is an important tool for controlling access to and use of resources. Although it is often conceptualised in places and through mechanisms remote from where it actually happens (e.g. through international conferences, agreements and conventions), conservation is a located practice and process, and is often implemented through technical projects, by multiple actors at local, national and international levels. Many of the projects and programmes aim to change national policies and institute particular approaches to managing and using local resources. It therefore becomes imperative to understand how biodiversity conservation is carried out, and in particular *what* its outcomes are for people in spaces where it is carried out. This study therefore focuses on the consequences (the 'what') of these processes on local people's livelihoods, especially their access to and control over ecological resources.

This research aim required being located in the research area for a considerable amount of time in order to understand local interactions, practices, perspectives and experiences of environmental change and policy. The conceptual framework discussed in the preceding section aided the general research focus, and also guided data collection, analysis and presentation. The next section focuses on the methodology used for conducting the research.

2.2 Research and methodological approach

This study is qualitative, and largely focused on fieldwork to collect data. According to Bailey (2007: 2), 'a primary goal of field research is to understand daily life from the perspectives of people in a setting or social group of interest to the researcher'. In this sense, 'knowledge and practice are studied as *local* knowledge and practice' (Geertz 1983, cited in Flick 1998: 2) (emphasis in the original). As Berry (1993: 27) also argues: 'People are, after all, our principal informants: their statements and actions not only provide researchers with much evidence about social practices, but they also play an active role in shaping our understanding of their circumstances'. Asking how individuals participate in institutions and networks or redefine boundaries between networks and institutions, and how their understanding of their circumstances may contribute to our own understanding therefore forms an important part of analysing social dynamics (Ibid). Punch (2000: 38) also notes that 'explanatory knowledge is powerful: when we know why (or how) something happens, we know more than just what happens, and we can use the explanation for prediction' (Punch 2000: 39).

As noted in the preceding section, this study seeks to understand people's experiences in interacting with the environment and environmental policies and programmes in the Okavango Delta. Central to this is the need to understand how *local* resource access and control is shaped by the *internationalisation* of local resources through global environmental discourses, frameworks and processes. This process is neither obvious nor clearly identifiable; it is complex and takes place at multiple sites in local, national and international contexts, through the interactions of multiple actors, ideas and discourses. Understanding the way people perceive and speak about these issues was therefore central to understanding how they are affected by them in this research. Narratives, stories, statements and explanations about people's experiences of the physical environment, as well as how they speak about it (framings) and relate with each other over it were therefore important in arriving at the answer. Adopting a qualitative methodology for the study was thus a logical choice for investigating human-environment interactions. As argued by Brockington and Sullivan (2003: 57): '…if we reflect on the reasons for asking questions which require qualitative methods, and the nature of the answers they provide, it becomes clear that qualitative approaches also embrace significant philosophical debates regarding the nature and implications of subjective experience…'

Since this study seeks to understand the everyday experiences and dynamics of local resource-users in the Okavango Delta (specifically Seronga village), the bulk of the fieldwork research relied on participant observation and in-depth, semi-structured interviews as the main tools for data collection. Other methods at the local level included informal conversations with local resource-users and managers and government extension officers based in the Okavango Delta; observations during visits to crop fields and harvesting sites, and living and travelling through the region; and focus group discussions and participation in village activities, such as village ceremonies and K*gotla* meetings. These methods were complemented by more structured interviews with other actors outside the resource-use level in resource management capacities, including the district-administration level (Maun) and the policy-making level at the government headquarters (Gaborone), as well as to a small extent in other places (South Africa and the UK). Aside from local resource-users, interviews were held with individuals holding positions of authority, NGO personnel, academics, politicians and scientific experts. A number of the respondents were interviewed more than once, if they were identified as key. Interviews with local resource-users and members of the Seronga community were largely informal, and tended towards being conversational. This is because I preferred to open a discussion and let the respondent lead it and highlight what they thought was important, but when necessary I also asked direct questions. This informal nature of interviewing was mostly used at the village level and to a lesser extent with other

respondents (e.g. government officers, experts etc.). Early in the research process, when I attempted to tape-record an interview with a known respondent (a former colleague), she asked me if I expected people to be open with me if I tape-recorded them. Taking into consideration this comment and the repressive political climate in Botswana at the time of conducting fieldwork, I abandoned tape-recording and resorted to taking handwritten notes. Interviews with local community members were mostly conducted at their homes in more informal settings, while those with government officials and academic experts were conducted in their offices in more formal settings. I kept a separate field notebook to record observations made during field visits (such as crop fields and grass collection trips), from village events such as meetings and ceremonies, and from casual, informal daily conservations with people. Keeping a notebook also helped me reflect on the research process, my impressions of the place, the people I interacted with and the issues as they unfolded, as well as helping me formulate new questions and be forward-looking.

In addition, reviewing the literature and secondary data sources such as government policy documents (policy papers and legal documents), scientific/academic work by other researchers on the Okavango Delta and publications by NGOs and institutions working on environmental management and biodiversity and conservation issues (e.g. project reports and project proposals) were an important part of the data collection process.

The village of Seronga was selected as the research *base*, and while it represented the main research area, other 'sites' were not necessarily geographically- or spatially-defined, but involved actors found at many 'local' and 'international' sites, including international experts located in the Okavango Delta area and elsewhere. These sites also included symposia, meetings,[11] workshops and conferences within the research site or other parts of Botswana and elsewhere, related to the management of the Okavango Delta or similar issues. Trying to understand the Okavango Delta from the perspective of Seronga, while useful, also posed a challenge in terms of the relevance of conclusions about Seronga for other places in the Okavango Delta. This remained a constant battle during both the fieldwork itself, and during data analysis and presentation. That said, generalisations can reasonably be made about the Seronga case to the rest of the Okavango Delta, as the main subject of study, resource-use dynamics, is largely comparable in the area. However, generalisation may also come at the cost of 'diluting' the specificity of the place and the experiences of the people of Seronga as a 'spatially-defined' social entity, perhaps 'muting' their

[11] As a former member of staff, the OKACOM Permanent Secretariat invited me to attend their annual meeting at which transboundary basin issues are discussed between the three basin members. I was also invited to an exchange visit between the Nile Basin Commission (NBC) and OKACOM.

voices. Achieving this balance has therefore been an ongoing struggle and a difficult part of the writing process. Nonetheless, a deeper understanding of resource-use dynamics in Seronga as a case study sheds some light on the broader Okavango Delta case, and perhaps even on similar cases elsewhere.

By the end of the fieldwork, 74 (recorded) discussions, involving over 100 individuals had been held with various men and women of different ages involved in diverse livelihood activities such as farming, fishing, petty businesses, large commercial operations (e.g. tourism) and grass and reed collection, as well as government officers and NGO personnel at the local (Seronga village, Shakawe, Samochima and Maun) level. Focus group discussions, informal conversations and observations were complemented with interviews with key individuals.

2.2.1 Seeing the Okavango from within: understanding the resource-user's perspective

2.2.1.1 Identifying research participants

On arrival in Botswana in mid-July 2008, I immediately had to apply for a research permit from the government and managed to secure this after a month, although I had to rely on relationships with former colleagues within the responsible government department in order for it to be processed so quickly. The permit did not entail any restrictions, except for a clause indicating that if I intended to research indigenous groups (San) or enlist them as guides (e.g. in transects walks, especially within protected areas), I would first have to seek additional permission from the relevant government agency. Before leaving Gaborone for Ngamiland, I held discussions with a few people that I knew were working on or had worked on Okavango Delta issues, to gather contacts and receive an update on issues related to my research. Armed with the research permit and contacts, I left for Maun, the administrative capital of Ngamiland, in mid-August, and took two days to complete the 1000km trip. Upon arrival in Maun I first approached the regional office of the Department of Environmental Affairs (DEA) for additional contacts. Officers within the DEA office in Maun were well known to me through prior work and residence in Maun, and through them I was able to access a long list of key people to contact during the research process, including government officers, knowledgeable individuals in key sectors of interest in such as tourism and fishing and senior members of local authorities, such as community-based organisations. I contacted the DEA office because just a few years before (2003-2008) the office had carried out a large project to develop a management plan for the Okavango Delta (ODMP), which had involved a large component of

stakeholder consultation, and which, as part of the Ramsar listing process, formed an important part of my research.[12]

The trip into the interior of the Okavango Delta (Seronga) took another two days and great logistical preparation, as I had to bring with me many of the essentials that I would need for that trip, including food, reading materials and even bedding. I also did not know when I would be able to leave Seronga, as the area is remote, so I had to be prepared for a long stay. While I was familiar with the Okavango Delta and rural life, I did not know this part of Botswana (north of Maun) well, and what I was embarking on this time was very different from my experience of living in Maun a few years before (2005/6), as this time I was on a small student budget and had no access to a personal vehicle or comfortable accommodation.

I spent the first month living at the cattle-post (farm) of my host family in Kweqana, five kilometres from Seronga, in their son's cottage, located just above an expansive floodplain. My hosts were the family of close friends that I had met during my stay in Maun in 2004-2006, and who at the time were living in Shakawe, about 110 kilometres north of Seronga. They put me up at the farm cottage because they thought it would be more comfortable than living in the village, as the homestead in the village had no modern ablution facilities. Despite being far from Seronga, my first reaction was that it would be interesting to walk in and out of the village from the cattle-post; It would enable me to slowly 'introduce' myself to the village. It was also a geographically interesting place to be: from here I could observe the spatial distribution of resources and how it shaped livelihood activities more easily than from the village. I could also explore the vast floodplains on walks trying to 'find' the river. Many times I came across bundles of reeds and grass resting against trees close to the floodplains, and boats docked under trees along the water. The seasonally-flooded plains were a vast grazing area for livestock, which moved towards the floodplain in the mornings and away from it in the evenings. Occasional night visits by elephants to ponds close to my cottage were also common. The river and floodplains were very 'busy', and life followed a seemingly simple and predictable rhythm. But the Okavango is anything but predictable.[13] Daily walks from the cattle-post to the village and back were both exhausting and revealing of the spatial distribution of

[12] The Okavango Delta Management Plan (ODMP) is a significant component of this study and is discussed in detail in Chapter 4.

[13] After I left, intense rain (during the 2008/2009 rainy season) and extensive floods displaced a few of the settlements I used to drive through. The floodplains mentioned above have been underwater since this time.

livelihood activities and the challenges they face, from almost daily encounters with elephants[14] to the difficulties of walking ten kilometres in the scorching 40 degree Celsius heat in the height of summer. A month and half after my arrival I moved to Seronga, where it became a lot easier to be part of the village and to access members of the Seronga community. I was, however, grateful to have had the opportunity to see Okavango Delta life from a cattle-post.

Once in Seronga, my first port of call was the Chief's office, where traditionally 'outsiders' go to introduce themselves and announce their presence in the village. The Chief was welcoming and 'happy to receive [me] in [his] village'. He assured me that I would enjoy myself and learn a lot. He also gave me the 'green light' to talk to the locals, and asked me to introduce myself to the Village Development Committee (VDC), a local institution that has acquired the label of a 'Village Parliament'. I did not need to get the Chief's permission to be in the village, but his welcome made me feel like part of the community, and helped me to integrate into the village.[15] During my five months in Seronga, I would meet many people who took a personal interest in me and my work, and who shared with me many stories. I was offered both marriage and land, neither of which I accepted, of course, but in the end I got the chance to hear 'stories from below'.

Although the research base was Seronga, visits to and stays at Kweqana (a cattle-post), five kilometres out of Seronga, and short trips to Shakawe (90 kilometres north-west of Seronga), Samochima (110 kilometres from Seronga, located on the western fringes of the Panhandle) and a two-month stay in Maun (about 500 kilometres away, on the south-eastern fringes of the Delta), as well as frequent travel through numerous villages, allowed for observations in other parts of the Okavango Delta. Low-altitude flights over the Okavango Delta allowed for spatial appreciation of the wetland expanse and the geographies of wetland use. From the air, the flood distribution, numerous islands, fences, lodges and safari camps and airstrips are observable. As noted in Chapter 1, this research built on prior MPhil research and residence in Maun, and on work experience on Okavango River Basin management issues with international organisations.

After a few weeks of spending time in the village and observing life, I sought out specific people whose contact details I had received through former colleagues and key contacts in Maun and elsewhere. These included a few individuals associated with a community-based organisation, the

[14] I once had to hide behind a tree for about ten minutes while waiting for elephants to cross the road. On this day I happened to walk to the village very early to attend a village assembly (*Kgotla* meeting) convened by a cabinet minister. Elephants travel to the river at night to drink and swim, and return to the forest in the morning. School pupils who travel between the different settlements therefore have these encounters on an almost daily basis during the dry season.

[15] At one of the village (*Kgotla*) meetings, the Chief also introduced me to the community and announced that I was in Seronga to conduct research on rural life and the use of natural resources.

Okavango Community Trust, as well as the local councillor, the Chief, the Land Board (land authority) and some members of the village elite, who were considered to be knowledgeable on certain subjects of interest to the research. Other contacts were already obvious to me, including the chairperson of the Village Development Committee and heads of government departments. Initial interviews were conducted with these key individuals to get a picture of the dynamics in the village (e.g. social relations, resource-use, changes in policy and environment and so on) Attending village *Kgotla* meetings was an important way to listen to and understand issues of concern to the community without asking questions, as well as to observe relationships between different individuals, groups and institutions (including government agencies) and with the community. For these reasons, I attended the three meetings that were held while I was in Seronga (one convened by the Minister of Presidential Affairs to discuss various aspects of national development; one convened by the District Commissioner to launch a government loan scheme (Self-Help Housing Agency, or SHHA) to help households access loans to build 'modern' houses; and one by the Okavango Community Trust (OCT) to present the Trust's audit report to members of the community). At these meetings, I met different members of the community and was able to hear what issues were of importance to them. The differences between various households were observable from the ways in which they spoke about issues and about themselves. It was also important to observe who did not speak. Some of the people I approached for interviews were identified at these fora.

Interviews with individuals often led me to my next interviewee, and I always made it a point to ask about who key people would be to speak to about specific issues (e.g. farming, fishing, the elephant problem and so on). After a few weeks of talking to people about different aspects of rural life, I organised focus group discussions with different resource-users broadly categorised as farmers[16] (agro-pastoral), fishers (commercial), harvesters (reeds, grass) and weavers. The latter two groups usually comprise same people. Discussions with groups of farmers were often about both cultivating crops and rearing livestock, and livestock generally refers to cattle, as these are more important for a Motswana farmer than any other livestock they may own. In Seronga, as already noted, fishers, reed and grass collectors and weavers also tend to be farmers, thus, virtually every member of the community is a farmer, and can speak on related issues. For this reason, I held two focus group discussions with farmers. The first consisted of people loosely categorised as 'big'

[16] In Botswana, as in other parts of rural Africa, an average farmer is often engaged in both cultivating crops and keeping livestock, and the Setswana name for a farmer is *molemi-morui*, which translates to 'one who cultivates and rears' (cattle, sheep, goats and so on).

farmers, i.e. those who cultivated more than three hectares (and up to about seven), who used cattle and 'specialised' labour to some extent, and who also owned large herds of cattle. These can be referred to as middle-income farmers. To find out who these people were, I asked a young local who worked for the Community Trust as a conservation officer and who also comes from a family of farmers. I requested a list of 'big' farmers and 'poorer' farmers, as well as those who fished and collected reeds and grass and wove baskets for subsistence and commercial purposes. This informant included his family in the list of 'big' farmers. The first discussion with 'big' farmers was held at a farmer's home on 22 September 2008 after a day of organising. This group of seven (four women and three men) farmers were mostly older, comprising people who had been engaged in farming for a long time, ranging from age 50 to 90. As farming is also shaped by the dynamics of natural resources, especially elephants, discussions often led to issues of wildlife management and natural resource governance in general. Other 'big' farmers were interviewed on an individual basis. The second discussion with farmers was held on 23 September 2008 in Kweqana, about five kilometres out of Seronga with a group of farmers loosely categorised as 'poorer'. These farmers were those who often struggled to cultivate even two hectares, used mostly donkeys or hand-held hoes, and often owned no cattle. This group comprised two women and four men aged between 40 and 90. Discussions with this group of farmers highlighted the challenges for poorer farmers, especially for unmarried women, and for those who owned no cattle. Other poorer farmers were also interviewed on an individual basis, as well as during discussions held about other issues (e.g. grass collection or fishing).

To find out about fishers, I contacted the fisheries office in Seronga and held discussions with the extension officer on different issues around fishing and fisheries management. He informed me about the Seronga Fishermen Committee, which at the time was failing, and provided me with contact details of key people within the committee, through which the discussions were organised. Through the chairperson of the Committee, the focus group was announced at a funeral one weekend, and as a result, the response, two weeks later (on 20 September 2008),[17] was overwhelming, with 14 fishermen attending, including some coming from neighbouring villages. For this reason I had to provide a light lunch, as the discussion lasted for over three hours. Other separate interviews were held with commercial fishers, who are not members of the group, and also with those who fish for subsistence, or who sell fish. Another focus group was held with the members of the Boiteko Fishing Syndicate in Samochima (8 September 2008), a small village

[17] The initial meeting was organised for 13 September2008, but was cancelled as very few people attended.

located on the western side of the Panhandle. I visited this group after discussions with the regional fisheries officer in Shakawe, and after reading about the Syndicate as an example of a functioning and successful fishing group. For this discussion I called ahead and organised with the chairperson of the Syndicate (who is also the chairperson of the regional Okavango Fishermen Association) that I wanted to visit the facility and meet some of the fishermen. Five were present at the facility when I visited, and they agreed to talk about their experiences as an organised fishing trust. Discussions with this group were useful for comparison with the Seronga Fishermen Association, which is located in an area without infrastructure such as roads and refrigerators, which are important for marketing fish.

Reed and grass collectors and weavers do not form organised groups like the fishers, so I had to speak to key people to identify them. Through the local councillor, who every year provides transport for these women to bring their harvests from the islands to the village, I was able to meet a number of them, accompanying them on a grass collecting trip and participating in the loading and off-loading of the grass bundles. Ten women came on this trip (on 24 September 2008), and informal discussions were held with them during the trip and during loading. I also interviewed two of the women on an individual basis as 'key informants'. One of the key informants was also a basket weaver. Through another basket weaver, also a staff member (radio operator) at the Okavango Community Trust, I organised discussions with women engaged in basket weaving (3 October 2008). A number of these women were already part of a group of learner weavers who met on Fridays at the office of Social and Community Development, and also worked on a government drought relief project (temporary and seasonal work) building a house for the local veterinary department.

Issues raised by community members were taken forward in interviews with government officials. To access this group, I made visits to their offices, introduced myself and my research, and set up appointments for a different time. While I had official written permission from the Ministry of Environment, Wildlife and Tourism to approach any government officer for information, cultivating amicable relations with the people I would interview was beneficial for accessing information that I would not otherwise have been able to access through official documents. Some respondents were interviewed purely on the basis of their positions (e.g. as heads of department or community liaison officers). Identifying government officials (in Seronga, Shakawe and Maun) was generally easier in this case, and making an appointment and producing my research permit was enough to be given audience. A few interviews with government officials involved an 'off-the-record' session at the

end of the interview. These sessions often revealed controversial and richer information about decision-making processes within the government that often undermined the authority of other professionals, particularly the authority of junior officers based outside the capital, or exposed corrupt practices that served the interests of certain groups and individuals. Many of these practices had a bearing on policy decisions made 'at the top', which were often unilateral and clearly served certain political interests. A number of government officials in the district referred to themselves merely as 'policy implementers' rather than 'policy-makers', and often suggested I 'go to Gaborone' for answers. Some did, however, defend the government's official views and processes and kept their personal opinions to themselves, sometimes refusing to answer questions deemed to be controversial or relating to issues not in the public domain. The general climate in Botswana during fieldwork was that of frustration and dissent towards governmental decision-making processes, and this was clearly observable from the majority of the interviews with government officials, from conversations with private individuals, and from engaging with non-state media (print and radio). While this limited my freedom to ask whatever questions I wanted during fieldwork, it also revealed the context within which the research was taking place, the dynamics of policy-making processes in Botswana at the time and the politicised nature of resource-use and management in the Okavango Delta region.

2.2.2.2 The village of Seronga

The village of Seronga is located on the eastern fringes of the Okavango Delta Panhandle where the river starts to disperse into the swamp (see the map in Chapter 1). The population of Seronga during the official 2001 national census was 1,641 people (683 males and 958 females), comprising 364 households. 2004 population projections put the population at 1,805 (Ngwenya and Mosepele 2008). Localities associated with Seronga village, such as farmsteads and cattle-posts, had a population of 1,402 people in the 2001 national census (Government of Botswana 2001). These are households that use the infrastructure and services of Seronga (e.g. schools and clinics), who may even own a home in Seronga that they use at certain times of the year (e.g. after the cropping season) and who are under the authority of the Chief in Seronga. Because of this pattern of life and resource use, it is impossible to state with certainty the exact number of people living in any one place in rural Botswana. That said, some households permanently reside in cattle-posts and farmsteads. Botswana is divided into 163 Community Hunting Areas (CHAs) and in Ngamiland District (the Okavango Delta area), these are labelled 'NG'. These are administrative blocks used by the Department of Wildlife and National Parks (DWNP) to administer land and wildlife utilisation, and are leased as concessions for community-based tourism. Seronga is located between NG11 and

NG23. It is the largest settlement on the eastern side of the Panhandle, and as the administrative centre of the area, it hosts most of the social services (e.g. the secondary school, regional local authority, clinic with a maternity ward and so on) and is the service point for other settlements in the area.

The main ethnic group in Seronga is the Wayei or Bayei, followed by the Hambukushu and other groups, including the San/Basarwa (Bugakhwe or //Anikwhe groups) and Bakgalagadi, in smaller numbers. All these groups, also found in other parts of the Okavango Delta, were historically under the rule of a Tswana tribe, the BaTawana, who often enserfed them as a people. Today, the BaTawana are mostly found in the southern fringes of the Okavango Delta, in and around Maun. Although the Bayei have in the past experienced discrimination and ill-treatment by the Tswana-speaking tribe (i.e. the BaTawana), they also regard themselves to be superior to other groups that neighbour them (i.e. the HaMbukushu and the Basarwa/San). The Chief of Seronga is a Moyei, and other villages to the south and south-east of Seronga (all Hambukushu and Sarwa/San) are under the authority of the Seronga chief. The Basarwa in Seronga, therefore, still face discriminatory treatment from other groups and are among the poorest in the area, as is the case anywhere else in Botswana. However, many of the Basarwa live outside Seronga, east-wards towards the Moremi Game Reserve, where the villages and settlements are predominantly Sarwa/San. Intermarriages are, however, common between the Basarwa and the BaYei, and to a smaller extent with the Hambukushu, but these more often marry within their own tribe (Campbell 1976). Shortly after arriving in Seronga, I was able to observe the ethnic divisions in the village:

> *The village is clearly divided along tribal lines. The Hambukushu stay on one side of the village and the BaYei stay on another. The two main employers in the village (besides government institutions), the community trusts, seem to be controlled by either one of the ethnic groups. The Basarwa therefore do not really feature much in these arrangements* (Notes from the field, 28 August 2008).

Seronga, like most of the Okavango Delta, is rural. Households are still dependent on arable agriculture, as with most of rural Botswana. As will be discussed in detail in Chapter 5, livelihoods are diversified in Seronga and no single household concentrates on one activity. However, most households tend to specialise in an activity and carry out others as secondary activities. The choice of livelihood activities is influenced by ethnicity, although in the recent past some groups have adopted activities associated more with other groups. For instance, the BaYei historically practiced arable farming, in particular flood-recession agriculture (locally known as *molapo* farming), but have increasingly accumulated cattle, such that today about 56% of Bayei now regard livestock farming as important (Kgathi and Motsholapheko 2011). Activities are also influenced by

ecological conditions. For instance, in the Seronga area, *molapo* farming is not common as the floodplains are not as expansive as in other parts of the Delta where this type of agriculture is predominant. Arable farming in and around Seronga is therefore predominantly dryland, rain-fed agriculture. That said, both the Bayei and Hambukushu still insist that arable farming is of primary importance to their livelihoods. Research by the Okavango Research Institute (ORI) shows that even though households insist that agriculture is the most important activity, many increasingly rely on formal employment for income (see Kgathi, Ngwenya and Darkoh 2011). The Bayei also engage in fishing, but this is predominantly carried out by men and boys, whereas women only engage in it seasonally and while carrying out other activities at the river/floodplains, such as collecting water, washing clothes or harvesting reeds and water-lilies. In Seronga, it is not common to see women fishing, but on the outskirts of the village where the floodplains are more expansive, I often encountered old women and children fishing and collecting wild fruits.

As noted, there is increasing dependence on off-farm employment in Seronga, as is the case in other parts of the Okavango Delta and rural Botswana. Younger people are concentrating more on starting small businesses or engaging in harvesting wild resources for the market, in particular fish, grass and river-reeds. A number of women are also showing an interest in learning basket-weaving skills, as they recognise the potential for making significant profit with the tourism industry providing a market. Many, however, lack the skill and remain amateurs, and therefore cannot compete with the more skilled weavers. As Seronga is located on the eastern side of the Panhandle, where infrastructure is generally lacking (e.g. no tarred roads, no grid electricity supply), there is a serious lack of markets for any of the commercial activities (e.g. fishing, harvesting reeds and grass) that members of the village engage in, such that these are not commercially viable in the long-term. Those who succeed are those that target markets for essential goods such as groceries, and prices for goods like milk, sugar, flour and oil are significantly high. In Seronga, the largest and most successful grocery shop is owned by one of the only two white families in the village, who are also involved in party politics and tourism. Other than farming, fishing and government assistance, community-based tourism has become important as both a source of employment for community members and a way for the community to participate in natural resource management and tourism. However, as will be discussed in Chapter 5, a small elite group has managed to capture most of the benefits of CBNRM through corrupt practices, such that the rest of the community sees little benefit. The wider tourism industry in itself fails to provide significant benefits to local communities in the Okavango Delta, although at the national level it is the second most important economic activity.

Seronga is located in an area covered by the CBRNM programme, due to its proximity to wildlife-rich areas. There are 17 Controlled Hunting Areas (CHAs) in the Okavango Delta and Seronga and four other villages close to it (Gunitsoga, Eretsha, Beetsha and Gudigwa) have been awarded use of NG22 and NG23 for commercial wildlife utilisation under the CBNRM framework. NG22 is approximately 573 square kilometres, and NG23 is about 23,358 square kilometres. Both concessions are remote, inaccessible and reputed to be the most pristine and least developed in Ngamiland (Lepper and Goebel 2010: 730). For purposes of managing and utilising this land and the lease for wildlife use, the five villages have formed a community trust called the Okavango Community Trust (OCT), which is headquartered in Seronga village. Through the OCT, members of Seronga and the other OCT villages can access employment opportunities. The majority of these jobs are in the tourism facilities and companies to which communities lease their quota and with which they enter into joint venture agreements and partnerships. These are usually private companies (such as tour companies). There is another community trust in the village, the Okavango Polers Trust, which is smaller and is composed only of individuals within the community with similar interests (in this case *poling*, the use of dugout canoes or *mekoro* for excursions into the Okavango Delta).

Other than formal employment in the tourism industry through the community trusts, and in the civil service (e.g. clinics, schools and extension offices of various departments such as Department of Wildlife),[18] the majority of people in Seronga still depend on farming, which, as already noted, does not generate sufficient income for basic household needs. An average household therefore has to rely on other income-generating activities, such as fishing, harvesting and selling reeds, grass and wild fruits, or relies instead on remittances from members of the household who have migrated elsewhere for employment. A significant number of the population depends on government assistance through the various social security programmes, such as food rations, destitute allowances and drought relief programmes (e.g. cash for work). Researchers (Kgathi and Motsholapheko 2011: 45) from the Okavango Research Institute (ORI) conclude that sources of income in Seronga can be ranked as follows:

Table 1: Main sources of income in Seronga village

Main source of income	**Percentage of households dependent on this source (%)**

[18] Most of these jobs/positions are however occupied by non-locals (i.e. citizens from other parts of the country).

Arable agriculture	15.6
Formal employment	10
Livestock farming	8.9
Government assistance	5.6

As exemplified by the family that I lived with:

> Olebile Morotse is a 63-year-old Yei woman who was born in Seronga and has only received three years of primary schooling. She is an active member of the community and has in the past served as a member of the Parent-Teacher Association and the Village Development Committee. She believes that a lot of women in the community are sidelined and disempowered, as historically it is believed that men are better leaders than women. Over the years she has observed increasing restrictions on the use of local environmental resources, and argues that rules for their use should be made at the local level by community institutions and not in the capital city without consultation with the resource-users. In the past, Ms. Morotse's parents ploughed extensive land, reared cattle and also fished. She was married in 1966 at the age of 20 and lived with her husband in Jao (south-west of the Okavango Delta) and had six children. In 1974 she divorced her husband and moved back to Seronga where she was charged a penalty by the customary court for leaving her husband. She struggled to raise her children alone and managed this by ploughing maize and sorghum and selling surplus bags for additional income, as well as selling a few cattle which she inherited from her parents. She says that even though they sold surplus, all the harvest would normally be finished by December/January and there would be hunger again. Three of her children now work in the tourism industry and contribute towards household income through remittances. The Morotses lost a lot of their cattle because of a bad drought that hit the area in 1976/77. During this time the community relied on river-based resources such as water-lilies, papyrus and fish, as well as dried fruit. She gradually rebuilt her stock and continues to cultivate her fields. She lives in a three-roomed cement and brick house with one of her daughters who is a teacher at the local primary school, and a total of eight grandchildren and nieces and nephews. She divides her time between the farmstead/cattle-post (Kweqana) and the village (Seronga). The accommodation at the farmstead is simple and made of reeds and thatch. During the ploughing season she spends most of her time at Kweqana with the younger grandchildren who do not attend school, as she has to weed, chase away birds and tend to the fields and the goats. Her brother and a herd boy are in charge of the cattle. Other than her children helping with money to buy household goods such as food and fuel, there is an occasional container of milk that is sent from the farm to the village, as well as farm produce (maize, sorghum, watermelons, beans etc.) during the harvesting season and, occasionally, fish. Mma Morotse's family is average, neither rich nor poor, and yet during the dry season, when income is generally low and there is no farm food, only one substantial meal is had per day, as opposed to two during the harvest season (Notes from the field, 3 September 2008).

While most, if not all households farm to varying degrees, some cultivate larger crop fields than others, while others rear more cattle than they grow crops. Activities such as fishing and harvesting wild foods, grass and reeds are regarded as secondary activities by most, if not all households. There is, however, a small group of men who fish on an almost full-time basis, as will be discussed in Chapter 6. As already noted, these activities are also determined by the cultural preferences of

different ethnic groups. As also noted, there are a number of households that successfully specialise in specific activities and tend to 'accumulate', but this is restricted to agro-pastoral activities, with a bias towards livestock farming. These households are often the rural elite, who possess sufficient capital (assets) to turn their livelihood strategies into specialised portfolios and succeed. One of the largest cattle farmers in the village,[19] a former primary school head-teacher, who speaks fluent English, is a member of a number of committees, including the District Conservation Committee and the Board of Trustees of the Okavango Community Trust (OCT), and owns a Standard Utility Vehicle (SUV), noted in an authoritative manner on the subject of farming:

> *Why would I engage in arable farming when it is so unproductive? When I retired from teaching, I decided to concentrate on cattle farming instead. The soils in this area are not good for growing crops, but there is water and good grazing. As long as it rains, livestock will do well as the rain is the only determinant of good grazing here. I have my own grazing area of about 80 square metres, but I have not been able to fence it because of elephants* (Interview with Mr. O.M. Sakhuze, 25 September 2008).

Mr. Sakhuze belongs to a group of community members who may be categorised as 'the elite', and is one of about 20 Yei households in Seronga and related localities that can be categorised as wealthy. In contrast, it is possible for a poorer household to own no cattle at all, or to cultivate no more than a hectare of land. In fact, some of the poorest households lack any income of their own, and often have no capacity to engage in labour due to disability, age or lack of assets of any kind, and these destitute households often depend on government hand-outs for basic needs such as food. Access to these services is, however, not universal. Dependence on access to natural resources such as wildlife, grass, reeds, firewood, water, fish and grazing areas is therefore highly important for most households in Seronga and other parts of the Okavango Delta. However, as this study will show, there is a pattern of decreasing access to and control over these resources in the area, not only because of more land coming under environmental protection, but also because of restrictions on land uses outside protected areas. These issues are discussed in more detail in the chapters that follow.

One of the most significant events that happened shortly after my arrival in the field was a large village assembly (*Kgotla*)[20] convened by the Cabinet Minister of Presidential Affairs and Public Administration on 5 September 2008. The *Kgotla* is a traditional institution and a public forum where national issues are discussed and debated, and laws and resolutions passed. It is still used

[19] This farmer refused to tell me how many cows he has: 'A farmer does not count his cattle,' he said. It is not common to meet a farmer who will reveal the exact number of cows they own, but I was informed by one local that this farmer owns around 2000 heads of cattle.

[20] The *Kgotla* is a central place of traditional authority in the village setting and is overseen by the Chief. It is also a place where rituals, trials, sentences and punishments and village-level discussions are carried out.

today by the central government to disseminate issues of national interest. On this day, the Minister announced that he was coming to deliver an important message about the plans that the new Office of the President[21] had for Botswana, and in particular to reiterate the President's inaugural speech about his commitment to the principles of democracy. The Minister also announced a number of new official policy decisions and developments that would be implemented in the area, including a new agricultural support programme through which farmers would be given free seeds, fertilisers, free cultivation/tilling of land and fencing of fields. He urged smallholder farmers to make changes to the ways they use natural resources and the Okavango Delta wetland resources in particular:

> *Livestock should be relocated from the floodplains and riverfront to the sandveld where borehole services can be provided for free. Syndicates will maintain these boreholes that will be provided in the grazing areas. This service is for subsistence farmers and will improve food security and agricultural productivity in the area* (*Kgotla* meeting, Seronga, 2 September 2008).

As will be discussed in Chapter 5, agricultural development programmes in Botswana have always benefited large commercial cattle ranching, and marginalised smallholder farmers through fencing off communal grazing land and subsidising private boreholes. A number of smallholder farmers therefore voiced their disapproval of this suggestion, noting that as poorer farmers who cannot afford to drill and maintain boreholes, the river is their only source of water (see the opening quote in Chapter 1). A lengthy discussion was also held about the Ramsar status of the Okavango Delta. Some members of the community complained about the administration of land in the village, and that the land authority (i.e. the Land Board) denies them access to it. A representative from the Land Board explained:

> *This area is an international site* ['ke la mahatshe', i.e. it belongs to the world]. *It is a Ramsar Site. The land board authorises the use of land in a Ramsar Site. The Department of Environmental Affairs (DEA) has carried out an assessment in the Ramsar site to determine the appropriateness of current land uses. The DEA report recommended that we suspend the use of land because we might exceed its carrying capacity and degrade the environment. A consultant has been engaged to carry out assessments to inform us as to the extent to which we can use the land within the Ramsar Site. Applications that were submitted have therefore been rejected until these assessments are completed. All applicants have been informed of this process* (*Kgotla* meeting, Seronga, 5 September 2008).

After this explanation there was clear puzzlement in the *Kgotla,* and the Minister asked:

> *How many people here understand what a Ramsar Site is? People do not know or understand; they just see a restriction on the use of land. I will instruct the Land Board to hold meetings in the area and explain what changes are coming about as a result of this area being declared a Ramsar Site. Only certain activities and land uses can be allowed in a Ramsar Site, and this should be communicated to the people.*

[21] The new President assumed office in April 2008.

This was a curious development, as the project for the development of a management plan for the Okavango Delta (ODMP), which was tasked with conducting stakeholder consultations in the Ramsar Site, had concluded two years before (in 2006), and the management plan had been published in February 2008. It had also been more than ten years since the Okavango Delta had been declared a Ramsar Site. Interviews with the DEA later revealed that each area has an 'ODMP focal person' whose responsibility it is to update the community about new developments regarding the Ramsar Site, but an interview with the chairperson of the Village Development Committee denied such meetings being held in Seronga.

Seronga was chosen as one of the most representative settlements in the *rural* Delta, and in the Panhandle as a whole, in terms of the diversity of wetland resource-use issues, although large-scale differences are acknowledged between different parts of the Okavango Delta region: some areas are drier, others wetter. Seronga is also located in a stretch officially categorised as a 'human-elephant conflict area', meaning that communities in this area experience the most interactions with elephants and other wild animals in the entire Okavango region due to the area's proximity to the Moremi Game Reserve. The Okavango Delta is rather large, comparable to England in size, but in terms of resource use, generalisations can be reasonably made. Chapter 3 discusses the physical characteristics of the Okavango Delta in more detail and Chapter 5 discusses all the main natural resource livelihoods pursued by the majority of the Okavango Delta communities. During my stay in Seronga, there were methodological challenges that arose because of the 'flexible' and 'open-ended' nature of my research approach. I spent the first few weeks studying many aspects of rural life. This revealed a great deal about the highly diversified nature of livelihoods in the area and the challenges and opportunities presented by the ecology and politics of the Okavango Delta. As noted, one household could be involved in farming, fishing, collecting reeds and grass, formal employment and other village responsibilities. This richness of rural life was extremely fascinating but difficult to study in a short time. Therefore, in order to bring focus to the research and get a deeper understanding of the dynamics around access to and control over wetland resources, I decided to focus on fish and fishery management politics as a lens through which to understand the wider political ecology of human-environment interactions in the area. I chose fishing because it is a multiple stakeholder activity (involving men, women and children of different socio-economic backgrounds) that has undergone dramatic changes over time. Its management was also directly influenced by international projects ongoing during the time of my fieldwork.

Fishery use and management is traditionally a gendered practice and has recently been shaped by race and class dynamics as different groups have come into the Okavango Delta and the economy of the region has changed. Conflicts around access to and control over the resource have intensified, prompting interventions from the state through regulations introduced in May 2008. Therefore, by the time I arrived in Botswana for fieldwork in July 2008, these changes were still fresh and had sparked some of the most heated debates in the Okavango region. My interest in fishery issues grew slowly as I was conducting research into other issues. My curiosity lay in the motivations for introducing the new regulations: what had been wrong with the way things were? I knew that outside water, the use of natural resources was highly contested and strictly managed, but I always thought that the use of the river would be much more flexible than the use of adjacent land. I was proven wrong. A revelation lay in my host's comment: *'Fish is now like elephant, they don't want us to touch it, they have relocated the Fisheries Unit to the Department of Wildlife and National Parks, all they do there is strictly conserve resources'*.[22] This, to me, was a clear indication of how control over a resource can shift from one use (food), or user-group, to another (conservation), and my interest from then on lay in finding out *why* and *how*, in understanding fishery ecology, management and politics in the Okavango Delta, and what its management means for the use of the wetland in general. The results of this are presented in Chapter 6. However, I did not abandon the study of other local subsistence activities (farming and collection of wild foods, reeds), which are primarily seasonal activities lasting a short time, and, as a result, are easier to study as they were conducted. Chapter 5 focuses on these livelihood activities. The photographs below were taken at various periods during fieldwork (2008/09).

[22] Ms. Olebile Morotse, 64, farmer, Seronga (several discussions in 2008, 2009 and 2010). Elephants in Botswana are strictly protected under the UN Convention on International Trade in Endangered Species (CITES) and by Botswana's Wildlife Regulations. The Fisheries Division used to be based in the Ministry of Agriculture and was relocated to the Ministry of Environment, Wildlife and Tourism in the mid-2000s after the formation of this Ministry.

Figure 2: Airstrip in the Okavango Delta. Small aircraft are used to transport tourists from Maun to lodges and safari camps in the Okavango Delta. The Maun airport is reported to be one of the busiest in Africa in terms of take-offs and landings. Photo taken in February 2009.

Figure 3: Children washing clothes and fishing in a pool on a floodplain in Kweqana cattle-post outside Seronga village. Livestock graze in the background. This floodplain has been permanently flooded since the 2008/09 rainy season. Photo taken in September 2008.

Figure 4: Crop fields next to a floodplain in the foreground and a secondary (gravel) road in the background. The photograph was taken from the air during the rainy season (2008/09) in February 2009.

2.2.2 Seeing the Okavango from other places: understanding conservation and development policy perspectives

The last three months of fieldwork (February – April) were spent conducting research outside the 'local level', although short return trips were made to Seronga (in February and March). This phase of the research was carried out to understand how people 'outside' the Okavango Delta landscape (in particular formal government institutions) imagined it and spoke about it, and what views they had about how it should be used and managed. It was also to follow up issues raised by Okavango Delta respondents at the policy level, and get the policy perspective on these issues. The goal was to understand why policies towards the Okavango Delta have changed to be more restrictive and how they have been informed by global discourses on the environment as well as the work of international conservation organisations. The imagination of the Okavango Delta as a 'fragile' and 'aesthetically-unique' landscape and ecosystem, as well as a 'conservation centrepoint', are themes that are key to understanding its politics at the management and policy levels, and how these views shape human-environment interactions in the Okavango Delta landscape itself. As argued by Wolmer (2007: 10), landscapes such as the Okavango Delta swamps are 'locales of meaning which are perceived and interpreted from many different and contested viewpoints which reflect different

actors' particular experiences, culture and values at particular moments in time, and the institutional context and power relations within which they are embedded'.

As the larger part of fieldwork had already focused on local perceptions and experiences of the Okavango Delta ecology and politics, the remaining part focused on understanding policy 'visions' regarding the Okavango Delta and how decisions about it were made. Listening to the policy and management narratives was therefore a way of understanding the contestations, claims and counterclaims made by various Okavango Delta actors, both local and non-local. In additional to reviewing extensive literature about the Okavango Delta's ecology, hydrology and other social and natural aspects of the ecosystem, semi-structured interviews were held with policy-makers and key individuals in natural and water resource management sectors. Interactions with these actors were also carried out at national and international conferences on different aspects of water and environmental management. Through previous professional connections, I was able to participate in regional conferences such as the annual Southern African Development Community (SADC) River Basin Organisations (RBO) workshop sponsored by USAID, GTZ (German Technical Cooperation) and Sida. I was also asked to participate as a research assistant in a joint SADC-USAID study towards the development of 'Guidelines on Water Allocation and Benefit Sharing in Shared Watercourses'. Through this study I was able to interview senior government officials in Botswana and the region, and other individuals working on water resource management for international organisations such as GTZ, UNDP, SADC, USAID and several river basin organisations in the SADC region. I was thus able to access contacts that I would probably not have managed to access without backing from USAID and SADC.[23] In total, 31 recorded interviews were held with key individuals from this category (management and experts) in Maun, Gaborone, South Africa (Pretoria) and Europe (UK and Switzerland). A full list of recorded interviews is provided in Appendix 1.

During this phase of the fieldwork, the recurring issue was that of river basin management and the fragility of wetlands and wetland biodiversity in particular. To understand the role of global/international conventions on the management of the Okavango Delta, interviews were conducted with five senior officers within the Department of Environmental Affairs (DEA) head office in Gaborone,[24] and with four senior officers within the Ministry of Minerals, Energy and

[23] Including the office of the largest tourism company in the region, Okavango Wilderness Safari, based in Maun.
[24] The Director of the department declined to be interviewed on the grounds that his juniors were qualified to talk to me. DEA is the national focal point and implementing office for a number of global conventions including the CBD, Ramsar, the Stockholm Convention and the UNCCD.

Water Resources (MMEWR). These centred on the Ramsar Convention and the Convention on Biological Diversity (CBD), which are a main focus of this study due to their relevance to the Okavango Delta, as well as the management of the Okavango Delta as a shared resource in the context of the river basin agreement between the member countries (Botswana, Namibia and Angola). The interviews focused on the advantages of ratifying conventions and treaties, as well as the challenges faced in interpreting, domesticating and implementing them, and aspects of sharing the benefits of exploiting or conserving the Okavango Delta at local and regional levels. One of the people interviewed at the Ministerial level (Deputy Director of DEA) is the former manager of the Okavango Delta Management Plan (ODMP) project. The ODMP is a direct result of Botswana's ratification of the Ramsar Convention (see Chapters 3 and 4). This project was closely studied due to its direct connection with a global convention, and because it was designed specifically for the Okavango Delta. Other ODMP-related project officers were interviewed at the local level (in Maun).[25] Another project, directly related to the CBD, funded by the GEF and implemented by UNDP was also studied in detail, and interviews were held with the national project office staff in Maun at the University of Botswana's Okavango Research Institute (ORI). Furthermore, an interview was carried out with the regional project manager in Pretoria, South Africa, at the GEF/UNDP International Waters programme office.

In addition to the interviews, key policy and scientific documents on the Okavango Delta, and other publications on wetlands management and biodiversity conservation in general, published by international environmental organisations such as IUCN, WWF and the CBD and Ramsar Secretariats, were studied in close detail. Documents published on socio-economic, political and environmental issues in Botswana by international organisations based in the country (e.g. the EU, UN agencies and donor organisations) were also analysed to understand their perspectives. Review of scientific papers and academic literature on relevant subjects was an ongoing part of the research process. Analysis was carried out to identify factual information as well as to understand the language and discourses used to frame issues and statements. As argued by Apthorpe (1997: 43), 'the language and the writing of policy and research on policy function as a type of power'. Scientific reports and technical guidelines by organisations such as the Ramsar and CBD Secretariats significantly influence national policy-making and implementation, and therefore play an instrumental role in understanding the ideas and discourses behind many policy views and positions in government environmental agencies. In some cases, the exact language used by these

[25] Now the District Office of the Department of Environmental Affairs.

organisations is repeated verbatim in national policy documents, signifying agreement with their positions and views. Textual analysis is therefore the main method employed in studying these documents in order to understand their influence on Botswana's environmental policy and discourse. Similarities and differences in the use of language and ideas and the processes through which these are appropriated at the national policy level were examined. Examples include Botswana's reports to the Conference of Parties (CoP) of the UNCBD and the Ramsar Convention, as well as the National Development Plans (NDPs) that are prepared every five years to guide development in the country, and policy documents prepared by relevant government institutions. Understanding the similarities and differences between national and international discourses about the environment is important for understanding how these produce and reproduce each other, where ideas come from, how they shape practice in different contexts and how they are also shaped by local practices and interests. Chapter 3 explores the different perceptions and understandings of the various actors in the Okavango Delta by showing how the discourses about its use and management have changed over time as different actors have become prominent in the area, from colonial masters to government agencies to large conservation organisations. Chapter 4 focuses on global discourses and framings of biodiversity conservation and how they interact with local dynamics to shape current practice in the Okavango Delta.

In May and June 2010, I presented some of my research findings to a group of scholars working on similar issues at Wageningen University in the Netherlands, and at the Ramsar Secretariat Headquarters in Gland, Switzerland. Present at the Wageningen University presentation were two people working closely with the Ramsar Convention, a professor who is also a member of the Ramsar Convention Scientific and Technical Review Panel (STRP) and another individual working with Wetlands International, a partner of the Ramsar Convention Secretariat. Issues at Wageningen ranged from the generalisability of my research findings to other wetlands and similar landscapes, as well as suggestions to 'speak the Ramsar language' if I wanted an audience with them. This was in reference to the language and management approaches that the Ramsar Secretariat adopted after the 2005 Millennium Ecosystem Assessment (MA) with regard to biodiversity conservation, in particular those of 'ecosystem services' and 'wise use', implying the *important* role of human beings in wetland use and management, which, prior to the MA, was not prevalent in the Ramsar Convention discourse (see Chapter 4). At the Ramsar Headquarters questions focused on how my work could contribute to improving the work of the Secretariat, and what recommendations I could make to the Secretariat. Other informal discussions raised concerns about the difficulties that the Secretariat faces in accessing independent and reliable information from the Ramsar Convention

members (i.e. countries), resulting in Ramsar having to rely on third parties (like myself) for this. This therefore limits the Secretariat's ability to monitor the implementation of the Convention. Other issues raised alluded to the incapacity of the Ramsar Secretariat to influence the policies of member countries, as the Ramsar Convention is a non-binding treaty. These issues point to the some of the problems associated with applying international interventions in local environments. Although listing the Okavango Delta as a Ramsar Site has significant implications for policy in Botswana and may influence or even alter entire frameworks of resource access, the Ramsar Convention Secretariat is powerless to monitor implementation of the Convention beyond written guidelines and conferences. This leaves the Convention vulnerable to interpretation and appropriation by powerful groups to suit their own interests and to disadvantage others, as shown by the opening quote in Chapter 1, and as the rest of this thesis shows.

2.2.3 Practical and ethical considerations and positioning

This research relied heavily on my prior work in the field of environment and water resource management in Botswana, and on work on the Okavango River Basin in particular. Prior exposure to the issues was therefore useful at the time of conducting research. A great deal was however learnt during the PhD process itself, during which many misconceptions were dispelled and many new, embarrassingly obvious facts became clear. Going back to Botswana to conduct research made me feel particularly insecure about whether I would be able to ask the right questions, access the right people and in general conduct research worthy of a PhD. While I am a citizen of Botswana, and have lived and worked in the Okavango Delta, this did not make me an 'insider'; my home is over a thousand kilometres away from Seronga, I speak a different language to many of the Okavango Delta residents and live a different life from many of them. Although I was conducting fieldwork at 'home' and in my own language (Setswana), I remained an 'outsider' to the world of the Okavango Delta's people. Familiarity with the issues being researched and with some of the people I interviewed (policy-makers, academic experts and NGO personnel) was both helpful and challenging. It was helpful in that these people were easy to access and through them I was able to get information not in the public domain, such as internal reports. However, it was also difficult in that to a large extent they knew what I already knew and even challenged me. One asked: 'Phemo, why do you ask questions you already know the answers to?' Although I tried my best to position myself as a learner, and it had been close to a year since I had left Botswana for the UK to study, many of these people still regarded me as a colleague and, to some extent, even as an 'expert'. This challenged me to 'push the envelope' somewhat, and, again due to the fact that some of my

informants knew me, many opened up about controversial issues. Fieldwork thus turned out to be the most interesting and enjoyable part of the PhD process.

I arrived in Botswana for fieldwork at a politically significant moment in Botswana's politics. As already noted, in April of 2008, a new President, Ian Khama, had assumed office; his 'style' of politics and of running the country was already controversial, and a few political scandals were already part of daily discussion among the members of the public. As Kenneth Good writes (2010: 81) about Botswana politics, which is characterised by 'ruling party predominance and presidentialism': 'Elitism is historically structured as is its accompaniment, popular passivity'. Upon arrival in Botswana for fieldwork in July 2008, people were talking about the oppressive nature and military-style politics of Ian Khama, a former army general, and his tendency to make decisions alone, even on matters of public interest. There was also a palpable fear among the people, in particular among government officials, about the potential consequences that might be suffered as a result of speaking against the President or his close associates. As the Media Institute of Southern Africa (MISA) has been quoted by Good (2010: 89): 'a cloud of fear has descended on civilian life in Botswana, impacting on freedom of expression and other freedoms as well, such as freedom of movement…' Good linked this to Ian Khama becoming President in 2008.

Members of the public service were particularly cautious about what they said for fear of losing their jobs, or worse, if they criticised the government. State security agents from the Directorate of Intelligence and Security (DIS)[26] have been accused of spying on individuals and groups and singling them out for detention, torture and even extra-judicial killings, as reported by Botswana newspapers (Saleshando 2009; Segobaetso 2009)[27] and academics (see Good 2010). My fieldwork took place in the context of this repressive political climate. Some respondents (especially government officials) therefore kept their personal opinions to themselves during interviews, and presented the 'official' view of things, while some refused to speak about certain issues ('I can't comment on that'), and others aired their frustrations in 'off-the-record' sessions at the end of the 'formal' interview. These sessions in many ways revealed the real, messy picture within which policy decisions were being made, and posed the dilemma of how to integrate that information into the data presented in the thesis during analysis and write-up. For reasons of confidentiality, this data

[26] The Directorate of Intelligence and Security is a new government agency that was formed by President Khama upon assumption of office in 2008, and by July 2008 was already implicated in the murders of eight members of the public, including a member of an elite family who prosecuted the authorities.

[27] See *Mme*gi newspaper for Wednesday, 20 May 2009 (Vol.26, No.75) (www.mmegi.bw/index.php?sid=2&aid=36&dir=2009/May/Wednesday20) and the *Sunday Standard* newspaper for 25 May 2009 (www.sundaystandard.info/article.php?NewsID=5009&GroupID=5), last accessed on 9 June 2011.

was not included. It did, however, help me position myself within the research process and guided it in that I knew what kind of issues to pay close attention to in the media and in public debates, or indeed to be careful about which issues I brought up in certain settings for my own safety. When the person being interviewed expressed the desire not to be quoted, or asked to speak 'off-the-record', I ensured that their confidentiality and the details of what they said were not divulged to other people I interviewed.

The empirical data is largely presented in Chapters 5 and 6 and to a small extent in other chapters, and, where necessary, the names of people interviewed, especially government officials, have been withheld. Where statements made by community members are perceived to be 'normal' and uncontroversial in the context of Botswana, I have included the names of those people or their status or position within the community. Where potentially controversial statements can be traced back to an informant, anonymity is protected, particularly with government officers (e.g. a statement being attributed to a 'senior government official' instead of a senior wildlife officer). Because Botswana is a small country in terms of population (about 2 million in 2011), it would not be impossible to trace individuals and link them to certain statements; however, it is my hope that the freedom of expression of the people interviewed will be respected. Leaving out names of people is, however, not an easy choice because it has the potential to disguise the embedded power relations in the statements made by certain individuals. I have therefore ensured that some useful information about the positions and political or socio-economic status of respondents is used wherever possible, even at the village level (e.g. attribution to a male smallholder farmer or a senior wildlife officer).

At the village level I had to be aware of my position as an outsider, a woman and a young person. I was often viewed as coming from a privileged background, though this is not the case. I lived with a local Yei family, and I was aware of the potentially political aspect of this choice, but my guests were not part of the village elite. I ate with my hosts and performed household chores like other 'children' in the home. I was, however, still an outsider with a different life compared to that of the people I lived with. The fact that I lived in the UK in itself positioned me differently from local people, as they always saw me as different from them and in most respects 'better-off'. However, this also allowed people to open up with me. In some cases I was asked to help in lobbying government departments about issues that community members were unhappy about, but I made it clear that I was just a student researching rural life. I did, however, agree to requests that were not politically biased, such as giving a motivational talk to final-year primary school pupils at the local

school. Explaining what a PhD is in Setswana language is impossible, so I often told local people that I was writing a book when they asked why I was conducting research. Many asked for their views to be included in the book and I saw this as a positive opportunity to engage them in conversation. Most of the time people were pleased that I was interested in their lives and took time to live in the village and become a member of the community, if only temporarily. I also had to manage relationships and expectations of family and friends that arose from me 'coming home' after almost a year in the UK. I was expected to be present at weddings and funerals and for public holidays in my home village, over a thousand kilometres from the research site. Explaining that I was 'home' for fieldwork, staying in constant contact by phone and spending the last month of fieldwork in the capital city (Gaborone) helped address these expectations.

There were only two white families in Seronga; I got to meet both of them and befriended one. When they found out I was not a 'local', they were able to engage with me on political and sometimes controversial issues about which they would not easily open up, especially to locals. Some conversations were uncomfortable and angered me, but this was partly why I was conducting the research. This also gave me an insight into their perspectives on local Okavango politics, especially race relations between whites and non-whites, and their interests in environmental use and management. Furthermore, they gave me an insight into relations between different ethnic groups, which I could only get from non-locals. As a young, unaccompanied and unmarried woman, I often found myself in uncomfortable situations with respect to the behaviour of a few males. I spent part of the time avoiding a number of men whom I felt displayed inappropriate behaviour towards me. This made research difficult to some extent. In general, however, I had a rich experience conducting the research, and this thesis can only be an account of my views and experiences, which may be partial in many respects.

The next chapter introduces the Okavango Delta in the context of Botswana and the wider basin. It briefly discusses the ecosystem's characteristics and their role in shaping perceptions of it, as well as its use and management politics at the local, national, regional and international levels. A short history of its use by its earliest known inhabitants, including the indigenous Basarwa/San communities, the aspirations of the British colonial administrators and later the post-colonial government, is outlined. Regional basin hydro-political issues are also touched upon to show Botswana's position *vis-à-vis* the other basin countries (Namibia and Angola) and how this shapes the management of the basin. The goal of the chapter is to demonstrate that from early on, the

Okavango Delta has been a contested resource. The chapter shows how these contestations have gradually facilitated the internationalisation of the resource through international studies, interventions, agreements and discourses that have, over time, shifted from promoting exploitation to strict conservation.

Chapter 3

From exploitation to strict conservation: the nature of the Okavango Delta, and the history and politics of its use and management

3.1 Introduction

> The Okavango Delta is advertised as the largest oasis in the world and is one of the world's premier wetlands, with magnificent scenery, game-viewing and bird watching…A major characteristic of the Delta, unlike the situation in most other African wetlands, is the existence of hundreds of islands that are scattered throughout the flooded area. They greatly enhance the Delta's world famous biological diversity of plants and wildlife. Including over 350 species, birdlife is prolific in the Delta and immediately surrounding fringes. During the dry season, large mammals, including herds of elephant and buffalo and thousands of antelope, come to the Delta from elsewhere in Botswana and from surrounding countries. Lions swim from island to island seeking prey (Scudder 2005: 200-201).

This aesthetically-appealing view of the Okavango Delta did not always prevail, or existed alongside another view that saw the Okavango Delta as a savage place needing to be tamed or controlled. These wilderness visions continue to shape use and management of the Okavango Delta today, although the 'nineteenth-century romanticism' (Wolmer 2007: 13) tends to dominate. Wolmer (Ibid: 15) argues that this binary wilderness vision 'is but one peculiarly Western way of seeing which requires the suppression of histories of inhabitation and a denial of other imagined landscapes'. The influential visions and thoughts about the Okavango Delta today are those that 'celebrate wilderness' and present a 'pristine' landscape that 'is not to be battled or tamed, but rather protected or rehabilitated' (Wolmer 2007: 38). In the recent past these visions and thoughts have combined with other powerful narratives and discourses about the fragility of African landscapes and neo-Malthusian visions of ecological degradation and collapse to produce more powerful discourses about how these landscapes ought to be used, managed and conserved. These visions and discourses are, however, contested at local, regional and global levels.

The Okavango Delta is located downstream of a larger river shared with Angola and Namibia. It is a unique swamp ecosystem, well known for supporting extensive populations of large mammals such as elephants and buffalo, many species of migratory birds and close to a hundred known species of fish. Much of the vegetation found in the Delta is not found anywhere else in Botswana. Many of these species of fauna and flora are listed as threatened under the United Nations CITES convention and are protected within the Moremi Game Reserve. For these reasons, the Delta is seen as an important area for biodiversity conservation, and was listed as a Ramsar Site under the Ramsar Convention on Wetlands of International Importance in 1997. It is also Botswana's prime

wildlife and wilderness tourism site. However, the Okavango Delta is also important for the many communities that live in and around it and depend on it for water, fish, wildlife and other resources. An estimated 80,000 people depend directly and indirectly on the wetland's resources (UNDP 2004). All these factors mean that competition over the resource is intense, and conflict often arises as a result.

At the global level, the discourse about the Okavango Delta has facilitated its internationalisation: not only did contestation over it lead to its listing as a Ramsar Site, but decision-making about its use and management have also been largely transferred from the local to the international level. This has been facilitated by changes in the perception of the swamps as 'unpredictable and without control' (Brind 1955: 4) and an important water resource available for human exploitation (Debenham 1948) to being seen as an environmental wonder that has acquired labels such as 'Africa's Last Eden'[28] and a 'fertile paradise'[29] that urgently needs saving from potential destruction by humans. The late 1980s and early 1990s were the deciding moments for the Okavango Delta, when large water development plans proposed by the Government of Botswana had to be 'terminated' due to an international campaign against the project by conservation organisations, in particular Greenpeace International, as well as a technical review of the proposed project by IUCN that further discredited it. As Thomas et al. (2001: 124) argue, 'internationalisation of the issue forced the government to change policy'. By mid-1992, water development aspirations and plans dating back as far as the 1930s took a dramatic turn, and from then on, the focus of both national policy and international assistance and discourse has been on conservation and 'eco' tourism. However, as I will argue in this chapter, this shift in focus has facilitated a strengthening of the Botswana government's control over the Okavango Delta and, by default, its control over the wider Okavango River Basin, to the disadvantage of both local Okavango Delta communities and upstream basin countries, in particular Namibia. Tourism interests have played an especially significant role in how the Okavango Delta is perceived, used and managed. As will also be discussed in this chapter, at the same time as feasibility studies and proposals were being made to exploit the Okavango Delta waters, other important developments were taking place with regard to the development and institutionalisation of a strong conservation focus in Botswana through the work of UN agencies (e.g. UNEP) and bilateral donor institutions such as USAID, the Norwegian International Development Agency (NORAD) and conservation organisations such as IUCN.

[28] Okavango: Africa's Last Eden' was published in 1978 by Peter Johnson, Anthony Bannister and Creina Bond.
[29] 'The internationally-renowned conservationist and commentator Sir David Attenborough in the documentary film 'Planet Earth'.

The purpose of this chapter is twofold: firstly, it serves as a background to the research area, describing its physical characteristics and discussing how these shape its use by local populations. Secondly, it locates the nature and ecology of the Okavango Delta system at the heart of the politics shaping its historical and current use and management locally, nationally, regionally and internationally.

3.2 The Okavango Delta in national and regional contexts

The Okavango Delta is located in the rural north-western corner of Botswana, in an area known as Ngamiland, or North-West District,[30] and occupies an area of about 129,930 square kilometres (CIA World Factbook).[31] Britain declared Botswana one of its colonies in 1885 and named it Bechuanaland Protectorate; Ngamiland was incorporated into the Protectorate in 1894 (vanderPost 2006). Prior to colonisation, Botswana was made up of tribal kingdoms and chiefdoms with an estimated population of about 350,000 (Morse et al. 1960). As will be discussed in this chapter, the Ngamiland region has changed and grown substantially since the arrival of the first Bantu-speaking people in the eighteenth century, who not only added significantly to the population but also expanded use of the Okavango Delta system. The arrival of the British brought more changes to Ngamiland: access roads and airfields were constructed and police posts established (Mendelsohn and El Obeid 2004). Britain's interests, however, were not in developing the Protectorate *per se*, but mostly in keeping other European settlers out, especially the Germans to the west (Namibia) and the Afrikaners to the south (South Africa) (Morse et al. 1960). As Mendelsohn and El Obeid (2004:55) note:

> Very little development came to Botswana over the next 70 years. Administration of much of the land was left to traditional chiefs. Almost the only interest anyone outside Ngamiland had in the Okavango was as a source of water for grandiose schemes to irrigate huge areas in the Kalahari. Development in the area was also limited by the presence of sleeping sickness, the disease transmitted by the tsetse flies. The Moremi Game Reserve was proclaimed in 1963. This was shortly after Britain began to realise that political and economic independence had to come to Botswana.

With independence from Britain in 1966, the new Government of Botswana began to invest in the economic development of the country, but this investment was biased towards the south-east and north-east of the country. The discovery of diamonds shortly after independence (1967) contributed

30 Formerly named Ngamiland District, this name was changed to North-West District in 2006 as part of the government's decision to de-tribalise land and to incorporate the Chobe area to the east, although the formation of the Chobe District Council in 2006 meant that the North-West District Council (NWDC) only administers the Ngamiland region. As these changes were made in the recent past, and mostly only changed the physical boundaries of the district, this study refers to this area as Ngamiland District or the Okavango region.

31 www.cia.gov, accessed on 25 January 2011.

significantly to the rapid development of Botswana (Jefferis and Kelly 1999). It quickly moved from being one of the six poorest countries in the world at the time of independence, with widespread poverty and illiteracy, to becoming one of the world's fastest -growing economies. Prior to this, economic activity was limited to cattle rearing and remittances from migrant workers in South Africa, and British government aid (Ibid). World Bank statistics put Botswana's GDP per capita for 1967/68 at US$98 (International Development Association 1971). Today, Botswana has literacy rates of more than 80% and universal access to health and education services, although distribution and quality of services are still a problem. Compared to the eastern part of the country, where most of the population resides, the Ngamiland region, however, remains remote and inaccessible. Provision of services such as water, health and education has, however, increased the quality of life in the area; child mortality has reduced and life spans increased (Mendelsohn and El Obeid 2004). Between 1964 and 2001, Ngamiland's population trebled from 42,500 to 124,700 (vanderPost 2007: 558), and 2008 projections put the approximate population at about 149,000 (Magole and Magole 2009: 878).

Despite rapid economic growth in Botswana, poverty is still rife. The Gross Domestic Product (GDP) per capita stood at about US$4,660.00 in 2003 compared to an average of US$464 for southern Africa (Kaunda 2008: 55). However, the percentage of the population living below US$1 a day stood at 30% for the same year (Ibid). About half of Botswana's population resides in rural areas (Keatimilwe and Mpotokwane 2006: 5), and this is where poverty is highest. In 2001, about 76% of Ngamiland's population was estimated to be living in rural areas, although all of Ngamiland is relatively rural, outside Maun. Maun itself is semi-urban, and as the hub of tourism and the gateway to the Okavango Delta, as well as the administrative centre for the region, it mostly attracts young people seeking employment. Its population was estimated at close to 50,000 in 2001 (vanderPost 2007) during the last official population census. The ten largest settlements in the district accommodate 52% of the population (vanderPost 2006) and many of these depend predominantly on subsistence livelihood activities such as farming and fishing. More than half of Botswana's population is female (about 52%) and there are also many female-headed households, especially in rural areas (Kaunda 2008).

The section of the Ngamiland population that is not directly dependent on natural resources for income generation is mostly employed in the tourism industry and its related services. However, Ngamiland's tourism industry, although thriving, 'has fallen short of the requirements of the growing number of people who need jobs precisely because they lost access to (some) subsistence

resources' (vanderPost 2006: 297; also see Mbaiwa 2005). Salaries for locals are generally low, and expatriates (4% of the Ngamiland population) employed in the industry earn the highest salaries (see studies by Mbaiwa 2005; Lepper and Goebel 2010). Those without employment and access to natural resource-based livelihoods are usually dependent on government social services for income; these include food rations for orphans and destitute households, food-for-work programmes, permanent destitute allowances and old-age pensions and home-based care for the terminally ill (Ngwenya 2008). Like in other parts of Botswana, HIV/AIDS is a serious problem in Ngamiland (Mosepele and Ngwenya 2010; Kgathi et al. 2007). According to Mosepele and Ngwenya (2010: 19), the Botswana AIDS Impact Survey conducted in 2004 estimated 16% and 13% prevalence for Ngamiland south and Ngamiland north respectively. This affects individuals' and households' ability to engage in income-generating activities and therefore increases the incidence of poverty. Ngamiland also has the highest number of HIV/AIDS orphans in all of Botswana (4% of orphans in the country), although traditionally orphans are absorbed into existing kinship networks (Ngwenya 2008: 51). With regard to natural resource use and management, conflicts have intensified as competition over access and control between uses and users has increased. Tourism and conservation are the main competitors for natural resources but contribute little to the economic growth of the district and the livelihood improvement of its population (Mbaiwa 2005; vanderPost 2006; Magole and Magole 2009).

The Okavango River basin as a whole is relatively underdeveloped (in terms of infrastructure), and has only recently come under pressure as a result of economic changes in all three basin states (Kgathi et al. 2006). All parts of the river basin have high incidences of poverty, and life in these areas is rural and dependent on farming and the utilisation of other river-based resources. Rainfall declines threefold from the river's headwaters (in Angola) to the Delta (Mendelsohn and El Obeid 2004), and of the three countries that share the Okavango River, Namibia is the driest and has the fewer alternatives for its water supply. The 27-year long Angolan civil war (1975-2002, with brief periods of peace in between) not only claimed the lives of more than a million and half people and left half a million needing urgent development assistance, but it also significantly shaped the socio-political climate of the wider basin, as well as its use. Cooperation between riparian states in the management of the basin remained difficult until recent years (Kgathi et al. 2006). During this time, the Cuando Cubango region of Angola, where the basin is located, and where the Angolan conflict was most significant, remained cut off from the rest of the country, and from the capital, Luanda, in particular. Of all three Okavango River Basin members, Angola has the largest population, but the population in the basin area (Cuando Cubango Province) is estimated at around 140,000 people,

while the Kavango region in Namibia has the highest population of Okavango river regions, with an official 2001 population of 201,093 people (Mendelsohn and El Obeid 2004: 53). Unlike Namibia, Angola has access to other water resources (including the Congo, Zambezi and Cunene, all transboundary rivers), and has a more favourable climate than Botswana or Namibia. Namibia also shares the Cunene River with Angola, and all three Okavango Basin members share the Zambezi River with six other countries, but these rivers are located far from where they are most needed (e.g. from Namibia's capital, Windhoek). A map of the Okavango River Basin is shown below.

Figure 5: Map of the Okavango River Basin in the Southern African context (Source: Okavango Research Institute, Maun)

3.3 The physical attributes of the Okavango Delta

The Okavango is the second largest river in southern Africa, stretching over 1000 kilometres (Kgathi et al. 2006), and is famous for being one of the few watercourses in the world that do not flow into the sea. Instead, it terminates in the Kalahari Desert sands, forming the world's largest inland delta[32] (Mendelsohn and El Obeid 2004). The Okavango Delta is not a delta in the traditional sense, but an endorheic basin in the middle of a desert whose flow is blocked by geological fault lines, and most of its waters evaporate (Scudder 2005). According to Wilk et al. (2006: 19), the area of the basin that generates water to the Delta is 165,000 square kilometres, of which 82% is situated in Angola. In Botswana, the lower Okavango River and subsequent Delta contrast sharply with the surrounding land where rainfall is low and erratic, evaporation rates are high and surface water is lacking for most of the year (Wolski and Savenije 2006). Although it is low on average in the Delta region (490mm in the north and 460mm in the south), local rainfall is a significant factor influencing the inter-annual variability of flood magnitude, rather in the way of 'wetting' the system before the arrival of the flood wave than by inducing flooding itself (Wolski et al. 2006: 60). Only in extremely high rainfall years (>800mm a^{-1}) do rain-induced floods occur (Ibid).

Compared to other wetlands in the world, the Okavango Delta does not actually have the highest biodiversity, though it has often been presented as such (Ramberg et al. 2006) in conservation discourse. What makes it unique are its ecological and hydrological aspects, caused by extreme spatial and temporal variations in the flooding pattern (Ibid). The frequency and duration of the floods are the principal drivers of the ecosystem (Murray-Hudson et al. 2006); as expressed by the local people, and shown in Chapters 5 and 6, these are what drives life and livelihoods in the area.

[32] The size of the Okavango Delta changes depending on the size and extent of the flood.

Figure 6: Okavango Swamps. Photo courtesy of the Ministry of Environment, Wildlife and Tourism, Botswana

At the border with Namibia (Mohembo), the Okavango River delivers on average 10,000 Mm^3 of water per year and, in addition to inflow generated by local rainfall, increases the water balance to about 15,040 $Mm^{3a^{-1}}$ (Wolski et al. 2006: 70). Most of this inflow is lost to evaporation (about 98%), estimated at about 14600 Mm^3, and the outflow (about 2%) leaves mostly through the Thamalakane (which flows through Maun) and Boteti Rivers, which occasionally reach the final sink, the huge Makgadikgadi salt pans[33] in the Kalahari Desert (Ibid).

After crossing the border into Botswana, the Okavango River flows in a confined channel for a distance of about 100 kilometres (known as the Panhandle), before dispersing across the alluvial fan that varies in shape and size (Kgathi et al. 2006). The upper part of the Delta, 'the Panhandle' is a 20 kilometre wide flat-bottomed valley, with a well-defined meandering channel. At the apex of the alluvial fan proper, the channel flows through a relatively unbound system of floodplains (Ramberg et al. 2006). As will be shown in Chapters 5 and 6, this is where most community use of the river

[33] Due to the connection between the two systems, the Ministry of Environment, Wildlife and Tourism is making plans to list the Makgadikgadi salt pans as a Ramsar Site.

occurs, in particular floodplain farming, fishing, cattle grazing and watering. The river later divides into separate distributaries, with the largest island (Chief's Island) dividing the Delta into its western and eastern parts (Wolski and Murray-Hudson 2008). Due to low gradients, the water that falls as rain in Angola in November arrives in the upper Delta (the Panhandle) around February/March, and moves slowly as a huge wave across the wetland landscape until it reaches the distal areas in July/August (Ramberg et al. 2006). There is, however, another localised wet period caused by rains occurring from December to March. The Delta thus has two fairly predictable wet periods and is a typical flood-pulsed system, usually with one flooding a year (Ibid). In response to this annual wave of water, the inundated area expands from a minimum size of 3500-6000 square kilometres in January/February to a maximum size of 6000-12,000 square kilometres in August/September (Wolski and Murray-Hudson 2008: 159). The actual size of the Delta is very much a matter of definition, and significant differences in stated size can be noted between authors (Ramberg et al. 2006).

Water throughout the Delta is exceptionally clear due to the very low suspended sediment load in the Okavango River (McCarthy et al. 1998). The vegetation and sands both combine to form a natural filter, making the water safe to drink (Wolski 2005). This means that most Okavango Delta communities are able to consume the river water directly without treating it, and many do. However, localised pollution is often reported in stagnant pools near grazing areas and settlements. The northern permanent parts of the river have extensive aquatic vegetation, dominated by papyrus (*Cyperus papyrus)* and common reed (*Phragmites)*, and, as will be shown in Chapter 5, these have historically played an important part in the livelihoods of the people, and continue to do so, being used for making various household materials.

At the wider river basin level, the simulated impact of future climate change on Okavango River discharge is highly variable, both in terms of mean monthly flow and minimum flow (Andersson et al. 2006). Simulation results by Andersson and colleagues (Ibid) indicate that future climate change is likely to have a proportionally larger impact on minimum monthly flow compared to mean flow. They predict that at the Okavango Delta level changes will be significant, depending on whether the system becomes wetter or drier. However, the combined effects of human abstraction (as is expected to happen upstream in the near future) and climate change, manifested in increased temperatures, decreased rainfall and reduction in river flows, may result in significant Delta drying (Murray-Hudson, Wolski and Ringrose 2006: 82). This will have significant socio-economic consequences:

> Because hydrology is a primary determinant of the floodplain vegetation, the ecological effects of hydrological changes from upstream development will be similar to those of climate change, varying only in degree. Increases in dryland areas thus can be considered undesirable under a management regime which seeks to maintain or improve biological diversity and eco-tourism value. Development scenarios involving damming result in loss of grasslands and will have a negative effect on wildlife habitat, herbivore diversity and the extensive eco-tourism development based on these two factors. Similarly, such losses will result in the loss of arable potential for these floodplain classes in the peripheral parts of the Delta, with subsequent negative effects on subsistence livelihoods. In addition, some loss of biological productivity can be expected with the reversion of these classes to woodland (Ibid).

Changes in flooding in the Okavango Delta result from either variation in hydrological inputs (inflow from the Okavango River and local rainfall), or changes in the distribution of water within the system (Wolski and Murray-Hudson 2008). The flooding pattern can change from year to year due to local factors such as vegetation blockages in the streams causing damming and overflow of riverbanks (Ramberg et al. 2006). From a socio-economic perspective, these changes present significant spatio-temporal challenges to (and opportunities for) the livelihood activities of floodplain communities as they directly determine the availability of resources. Floodplains may dry out for many years, and then flood again unexpectedly (Wilk and Kgathi 2007). As shown in Chapters 5 and 6, life in the Okavango Delta has to adapt to these largely unpredictable changes.

3.4 Human settlement and utilisation of the Okavango Delta

This section presents a brief history of human settlement in the Okavango Delta and the utilisation of the Okavango Delta ecosystem. Not much has been written about the pre-colonial history of Botswana. The earliest written records about Ngamiland date from 1849, when the missionary David Livingstone reached Lake Ngami. These records were not concerned with scientific study of the area (Tlou 1976). The remainder of this chapter therefore relies on a few key published accounts of the recent history of the Okavango Delta and its people.

Written accounts of the human history of the Okavango Delta indicate that, like other parts of Botswana, the Basarwa (the collective name for Khoisan-speaking people, also known as ‘Bushmen’) were the first inhabitants of the area (Tlou 1972, 1976; Campbell 1976). The first Bantu to settle in the Okavango Delta did not arrive until 1750 from both the south (Botswana) and north (present day Angola, Namibia and Zambia), and found the Basarwa already there. Most Bantu are mixed farmers who grow a variety of cereals and other crops, and wherever the natural environment permits, herd domestic animals, principally cattle, sheep and goats (Phillipson 1976). They are also known for their fairly complicated political, religious and kinship organisation, whereas the Basarwa historically owned little or no property, had limited political organisation and

lived by collecting veld food and hunting (Campbell 1976). From this, Campbell (Ibid) concludes that utilisation of the Okavango Delta on anything other than a purely subsistence basis is therefore only about 250 years old. Understanding the different origins and histories of the various people found in the Okavango Delta is important for understanding their historical and current livelihood strategies. All the groups discussed here are relevant to the study as they have all shaped human-environment relations in the area. Although fieldwork was conducted in Seronga, which is itself an ethnically diverse community, these groups interact with each other often, both in Seronga and other parts of the Delta.

3.4.1 Bantu migrations and settlement in the Okavango Delta

With the emigration of the Bantu (BaYei and haMbukushu in particular) into the Okavango Delta came intensive utilisation of the Okavango Delta swamps, as the Bantu introduced technological innovations of great importance for the development of fishing, hippo hunting and agriculture, the *mokoro* (wooden canoe) being the most significant (Tlou 1972). The Batawana, a Tswana group, arrived in the Ngamiland region from south-central Botswana in around 1820 (Tlou 1976). According to Tlou (1972), the BaYei and HaMbukushu immigration was probably the most significant historical event in Ngamiland prior to the BaTawana period. Campbell (1976) states that three main factors influenced human settlement and natural resource utilisation in the area: the topography of the land, which in the past determined resource distribution; the spread of noxious insects, particularly the tsetse fly *(Glossina morsitans)* and malarial mosquitoes *(Anopheles)*; and the historical way of living of the different people themselves.

The BaYei came from the Zambezi seeking a new home away from a crowded and politically unstable kingdom (Campbell 1976). The HaMbukushu are believed to have left Angola due to dissatisfaction with their king, and later, after the 1850s, fled from Portuguese slave traders in Angola (Tlou 1976). Another large migration of the HaMbukushu from southern Angola and parts of Namibia's Caprivi Strip into Botswana occurred in the 1970s, mainly fleeing colonial and later Angolan civil wars (Tlou 1976; Mendelsohn and El Obeid 2004). In 1974, about 3,750 HaMbukushu were registered as citizens of Botswana (Potten 1976). Like the baYei, the HaMbukushu brought to the Okavango Delta smelting techniques as well as agriculture (Tlou 1972, 1976; Campbell 1976). The Herero from Namibia also immigrated to Ngamiland from the early 1900s, fleeing German colonial wars. The Bechuanaland colonial administration settled them mainly in the western part of the Delta in the Sehithwa-Gumare area. The Tswana groups (mainly

BaTawana) came from the southern parts of Botswana and settled on the southern fringes of the Delta around 1847 (Tlou 1972; Campbell 1976). The theme of their politics henceforth was that of expansionism; they tended to enserf other groups and to impose their legal and, to some extent, their cultural practices, and also brought political institutions, law, language and pastoralism to the area (Tlou 1972). According to Tlou (1976), over the years, a tendency towards the creation of a homogenous society, at least politically and culturally, was discernible, dominated by the BaTawana. Social change was rapid as the various groups impinged on one another, and intermarriage took place between those groups that kept feudal servants (Campbell 1976).

3.4.2 Traditional utilisation of the Okavango Delta

The different economic activities of the Ngamiland people have been, throughout history, influenced by the environment. The people living on the floodplain and in the surrounding savannah were sedentary and grew crops, reared animals and fished, whereas those in the more arid parts of the region were largely nomadic hunters (Tlou 1972). Tlou (1972, 1976) argues that, prior to the arrival of large cattle-keeping groups (the Herero and the Batawana) in the 1800s, most of the livelihood activities in the region centred on fishing, crop cultivation and hunting and gathering, and before the BaYei and HaMbukushu, the indigenous people (Basarwa) exploited their environment, but on a small scale. The BaYei were fishers of note and also mastered floodplain or flood-recession agriculture, while the HaMbukushu's main activity was historically that of rain-fed agriculture, while they also fished on a secondary basis. On arrival in the Delta, they introduced different techniques that made it possible to exploit the riverine environment even more (Tlou 1972). Lung-sickness, rinderpest and tsetse fly not only decimated cattle and, in some cases, affected humans, but they also greatly influenced the distribution of human settlements in the late nineteenth century (Campbell 1976). With the coming of insecticides in the mid-twentieth century, cattle numbers recovered, along with those of wildlife and humans. Chapters 5 and 6 explore these issues in more detail to show how communities have subsisted in this area and how different developments have shaped their relationship with the environment. The table below is a summary of the main ethnic groups and the activities they historically engaged in and, to a great extent, still do. It shows that the most populous group in the Delta, the Yei or BaYei, sought flooded areas of the Delta where they could primarily engage in fishing and floodplain agriculture, while dryland farmers such as the HaMbukushu and pastoralists such as the Herero and the BaTawana sought drier areas away from livestock and human diseases.

Table 2: Ethnic groups and their main livelihood activities

Ethnic group	Spatial location and distribution of group and activity	Main livelihood activities	Comments
Yei	Sought areas of open but shallow water and floodplains. Inhabited many parts, and comprise the most populous group in the region.	Fishing and farming (agro-pastoral); also collection of veld products (reeds, grass, fruits). Flood recession agriculture is practiced on low-lying land.	Known to have brought fishing, river navigation and flood-recession agriculture skills to the Okavango Delta
HaMbukushu	Sought fertile soils away from the tsetse fly. Mostly found on the western-side of the Panhandle in Etsha 1-6 and 13 and in Shakawe.	Primarily arable farmers but slowly accumulating cattle; also some fishing.	Dryland farming is of prime importance to this group; every other activity is secondary.
Herero	Sought livestock disease-free/ tsetse fly-free areas with access to drinking water and good grazing. Mostly found on the western side of the Delta closer to the border with Namibia, where they originate from.	Cattle keeping; hunting, collecting veld foods and also some arable farming.	Historically did not practice arable farming. They are pastoralists, and can rear extensive herds of cattle. Currently the largest cattle owners in the Okavango region.
Sarwa/Basarwa/ 'Bushmen' or San	Eastern margins of Moremi Game Reserve and Delta; historically resided inside the present reserve site.	Fishing, hunting and gathering; also some livestock rearing but historically did not own cattle or cultivate land.	Introduced into farming through government programmes (Remote-Area Dweller Programme) as part of the quest to sedentarise them. Among the poorest groups in the country.
Tawana[34]	Sought areas with good grazing, livestock disease-free and with access to water. Found in Maun and south-western parts of the Delta.	Cattle keeping; arable farming and, historically, hunting. Some veld food collection was also historically practiced.	Historically enserfed all other groups and imposed their political and legal system and social culture.

[34] The Tawana is the only mainstream Tswana group in the Okavango region, and comprise a minority group in terms of numbers.

From a livelihood perspective, the physical characteristics of the Okavango Delta significantly shape local people's ability to farm, fish and access water for humans and livestock. One of the main channels that runs along the western part of the Delta, and the major source of water for Lake Ngami in wet years, the Thaoge, is reported to have dried up around 1884 along Lake Ngami, only flooding again for the first time in 2004 (Ramberg et al. 2006). Locals living along the Thaoge and around Lake Ngami would therefore have experienced significant changes to their livelihoods and possibly relocated to where water was available. The tsetse fly, however, restricted movement into the interior of the swamps, so those people with cattle kept to the Delta's margins (i.e. BaTawana and the Herero). According to Wilson (1973) there may well have been periodic attempts to clear channel blockages of immediate local concern before 1930 (the date of the first government attempt), but these are not known about.

The first attempts to carry out major engineering works by locals prior to those carried out by the colonial government were first recorded in 1931 (Wilson 1973). Wilson (Ibid) recounts stories of significant channel blockages caused by the numerous papyrus rafts that locals used for river transport. However, the use of rafts halted with the development of road transport (1953). That said, and as will be shown in Chapters 5 and 6, much of the traditional utilisation of the Okavango Delta remained well into the twenty-first century, and still characterises most of the Okavango Delta's rural life.

3.5 Early (colonial) plans to exploit the Okavango Delta

A 1948 water resources survey report by Frank Debenham, a professor of geography at the University of Cambridge, who was assigned by the British government to conduct a water resources survey of three British colonies, noted:

> …there are possibilities for the development of the Okavango-Chobe water resources which are vast to the degree of embarrassment. At present they depend so much upon factors which are either unknown or unpredictable…On the other hand, since such development is bound to come in course of time, it will be as well to initiate surveys and even experiment well in advance (Debenham 1948: 37).

Numerous attempts were made to exploit the Okavango waters. All manipulations were intended to increase water flows in one direction or another, and techniques varied. Some attached major importance to papyrus clearance, while others placed emphasis on dredging channels, making short-cuts and bunding off certain areas (Potten 1976). An account of these projects reveals complicated mechanical clearing of channels and the creation of diversions that included making short cuts

across meandering channels, the construction of 'curious dams with gaps' and even attempts to dry up river beds through the use of fire to burn reeds and other vegetation (Wilson 1973: 142). The outflow of some of the channels is reported to have declined considerably, and vegetation permanently cleared after some of the projects were finished (Potten 1976). Some of the 'curious dams' still exist and have become sites for a few bridges throughout Ngamiland. The most successful work is reported to have been carried out on the Thaoge River (which dried up in 1884) with cheap labour provided by the locals. The Thaoge runs along the western margins of the Delta, where the majority of the population lives, and is important for communities in this area; it is also the main source of inflow for Lake Ngami. According to Wilson (1973: 147), one report describes the work in 'clearing the Thaoge River of papyrus and other growth, plus construction of canals cutting across the course of the river...there are in all thirteen canals, six of which we traversed, and the distance cleared plus the canals which cover some 9 miles, amounts to approximately 70 miles'. A great deal of effort was put into attempts to recreate the flow in the Thaoge, particularly between 1937 and 1953.

As Wilson (1973: 147-151) observes, these channel maintenance projects went on until 1960/61. Locals are reported to have taken advantage of these projects. It is recounted that during a series of droughts, particularly in 1948 and 1949, 15 more miles of the Thaoge were cleared by local inhabitants for planting, when the papyrus had dried out (Wilson 1973: 149). In 1950, a three-year £28,000 contract was awarded to a retired engineer who was a former Director of Public Works in Ngamiland, W.G. Brind, for a hydrographical and hydrological survey of the Delta with recommendations for future development. While in Ngamiland, Brind also conceived, designed, built and assembled a special 24 foot high by 24 foot wide papyrus cutting machine. However, this machine did not work for very long, as it suffered so many breakdowns that were too expensive to fix. Nevertheless, based on Brind's recommendations, bold proposals were made for water conservation and agricultural development: 'Ninety-seven miles of blockages, weighing two million tonnes, were to be cleared in three years' (Wilson 1973: 147). In the meantime, a report was issued that advised against large developments in Ngamiland, and by 1956 it was clear that the (colonial) administration's development priorities lay elsewhere (Potten 1976). Furthermore, between 1952 and 1953, a series of earthquakes were observed and recorded in the Okavango Delta and these are believed to have caused significant changes in the regime of Boro and Thamalakane rivers, with marked increases in flow; however, this was not proven at the time (Wilson 1973). What was shown is that earthquakes occur frequently in the area and could certainly have a significant effect on the hydrology of the Okavango Delta. Recent research has also confirmed the possibility of seismic

activity in changing the hydrology of the Okavango Delta (Kgathi et al. 2006). This would have adverse effects on certain Okavango Delta settlements, as rivers and floodplains may cease to flow and flood.

Potten (1976: 83-84) summarises a list of the major proposals to exploit the Okavango Delta in a table below:

Table 3: A brief listing of the major proposals to exploit the Okavango Delta (Adapted from Potten 1976: 83)

Proposer	***Date of (first) proposal***	***Brief details***
Chapman, J.	1886	Irrigation
Bechuanaland Protectorate Government	1907	Irrigation
Schwartz, E.H.L.	1918	Climatic Change, Settlement, Irrigation
Du Toit, A.L.	1926	Water transfers, Irrigation, Hydro-electric power
Wellington, J.H.	1946	Water Diversion, Irrigation
Brind, W.G.	1953	Water Control, Water Transport, Irrigation
Lord Hailey	1953	Irrigation
Morse Commission	1960	Water Transfer, Irrigation, Industrial Development
Hawes, C.G.	1960	Water Transfer, Cattle Transport, Irrigation
Lund, B.G.A.	1963	Channel Improvement, Irrigation, Water Transport
Odeendaal Report	1964	Water Transfer
Hydroconsults	1969	Hydro-electric Power Generation
Midgeley, D.C.	1971	Water Transfer, Water Transport

Water transfer and irrigation plans were the most significant plans and studies regarding the Okavango Delta during the colonial era. Most of the plans sought to transfer water from the

Okavango Delta to distant parts of Botswana, and, in some cases, to areas as far as South Africa.[35] None of the many major proposals listed in the table above were undertaken, partly due to the Bechuanaland Protectorate (colonial government) administration's shifting interests and perhaps the logistical difficulties, and cost implications, of undertaking major engineering works in such a remote area. The plans were often grandiose and even ridiculous, but they reflected a particular perception of the Okavango Delta's waters held by those making the proposals and decisions. Many saw the Okavango waters as being wasted (see Debenham 1948; Brind 1955; Potten 1976), therefore needing to be tapped, diverted, stored and navigated. These perceptions and views did not stop when Botswana gained independence in 1966, and some were brought back as development policies in post-colonial Botswana and Namibia. This is the focus of the next section.

3.6 Post-colonial water development plans for the Okavango Delta: the case of the Southern Okavango Integrated Water Development Project (SOIWDP)

This section uses the case of a water resources development project (the Southern Okavango Integrated Development Project, or SOIWDP) to show how the work of international players, as well as development interests from outside the Okavango region have shaped current discourse and management practice in the Okavango Delta. It demonstrates how the discourse has gradually changed from one of exploitation to conservation, triggered by specific moments in time, and also how decision-making has slowly shifted from the local to the international level. Although the SOIWDP was never implemented, it contributed significantly to shifts in the Botswana government's policy towards the use and management of the Okavango Delta and towards the philosophy and management of natural resources in Botswana in general.

At independence, Botswana was an agrarian society (Poteete 2009b: 557), and its major source of income was livestock and beef exports. This was supported in particular by the secure, preferential access to the European Community (EC) that Botswana was able to negotiate for its beef products.

[35] Potten (1976) discusses the story of a South African meteorologist, Professor E.H.L. Schwartz, who triggered a great deal of interest in the Okavango Delta. He proposed to divert some of the rivers in Namibia and Botswana into salt pans such as Etosha in the north of Namibia and the Makgadikgadi Pans south-east of the Okavango Delta to create huge lakes of about 13,000 square kilometres and 39,000 square kilometres respectively. He believed that this would lead to greater rainfall, which in turn would increase the size of the rivers and ultimately the size of the lakes; in the end, rainfall would increase over southern Africa by an average of annually, making it suitable for white settlement. Public interest put pressure on the colonial authorities to investigate these theories further, and expeditions were sent to the Okavango in 1945. These found that the professor's ideas were based on dubious arithmetic. However, they did conclude that major developments in the Okavango Delta would be useful locally and would require extensive scientific investigation.

Historically, cattle are the major source of wealth, social status and economic security in Botswana, although ownership of cattle has always been skewed, with 5% of the population owning about 50% of the national herd (Fidzani 1998: 233). Most importantly, the cattle-owning section of Botswana society is not only the economic elite, but also the political and bureaucratic elite, and this has significantly shaped the government's policies towards land and water management. As noted by Poteete (2009b: 557):

> At least two-thirds of the members of the National Assembly between 1966 and 1978 were medium to large-scale livestock farmers. Livestock interests were even more pronounced among MPs from the ruling BDP, at least 57 per cent of whom owned large herds during this period.

From early on, the cattle economy was therefore of primary importance to Botswana, at least until diamond wealth became more important. Access to water and grazing was therefore fundamental to the growth of the livestock sector, and, by default, to the cattle-owning section of society; through the ruling party and government policies, reforms were put in place to ensure this access. Abundant water resources and grazing areas like those found in the Okavango Delta region are, however, not available anywhere else in Botswana, particularly in the south where the cattle-owning elite are based. The presence of livestock diseases in the Okavango Delta region presented an obstacle to expanding commercial ranching into the area. Nonetheless, extensive herds of cattle are still present in the Okavango Delta region, and owned by elite families from the ethnically and politically-dominant BaTawana tribe, as well as the BaHerero. As will be discussed in detail in Chapter 5, government policy towards agriculture has since the early years of independence favoured the livestock sector over the arable sector. Appropriation and accumulation of grazing land and water by the cattle-owning elite was observable, and, through government policy, was achieved through the 1975 Tribal Grazing Land Policy (TGLP), which privatised land ownership for commercial cattle ranching.

The discovery of diamonds shortly after independence presented an opportunity to access income through other sources, and the government used diamond wealth to reinvest the returns from diamond mining in improving the living standards of the poor majority who had benefited little from the expansion of the livestock sector (Fidzani 1998). One of the biggest mineral deposits was located just 200 kilometres south-east of the Okavango Delta, at Orapa, making it an important potential source of water for mining development and cattle ranching south of the Delta. The post-colonial government therefore built on earlier surveys and studies by the colonial government to further explore the possibility of using the Okavango Delta as a source of water supply for Botswana as a whole. Studies funded by UNDP/FAO would lead to a major water development

plan for the Okavango Delta system, the Southern Okavango Water Development Project (SOIWDP) (Scudder 2005).

3.6.1 Factors leading to the SOIWDP

A few of the colonial survey reports mentioned in the previous section (3.5) were forward-looking in that they made recommendations for future utilisation of the Okavango Delta to benefit Botswana. A report by Lord Hailey, published in 1953, stated that the possibilities offered by the Okavango 'for a major scheme of irrigation must always be an important consideration in planning the development of the territory' (cited in Potten 1976: 77). Another report by Brind (1955) concluded that development should be planned in the area with the main aim of increasing the local population by inducing settlement by Africans from outside the Tawana Reserve.[36] He noted: 'although Ngamiland is an isolated and backward area, it nevertheless has a place in the future economy and development of the Protectorate' (Brind 1955: 35). Brind's main recommendation was that a five-year plan be initiated, with three main features: water control and conservation; river clearing; and agricultural investigation.

Many of the studies and surveys commissioned by the British Government and its colonial administration in Botswana (through the High Commissioners) at different times paved the way for the work of the United Nations in Botswana after the Second World War. Following Brind's recommendations, a major scheme was drafted in 1954 for consideration for funding from the British Colonial Development and Welfare Fund (CD&W) (Potten 1976). However, this scheme never went ahead, probably because of the Symon Report, 'The Economic and Financial Position of the Bechuanaland Protectorate', also published in 1954, which advised against large-scale development in Ngamiland as premature (Ibid). Another report by the Morse Commission,[37] published in 1960, recommended a prompt survey of the possibility of tapping the Delta's water resources, stating that this project should include land surveys, soil classification and hydrological studies, and that it 'would seem a very suitable subject for assistance from the United Nations Special Fund' (Morse et al. 1960: 69). The UN Special Fund was conceived in 1958 by the UN Governing Council, and funded, among other things, 'feasibility studies that showed promise of a

[36] The Ngamiland region was declared a 'Batawana Tribal Reserve' by the British colonial administration, even though the Batawana were a minority tribe in the area. This is because they are a mainstream Tswana tribe and therefore were held in higher regard than other groups by the colonial administration.

[37] The Morse Commission, a five-person team led by Chandler Morse, was appointed in 1959 by the High Commissioner of Basutoland (Lesotho), Bechuanaland (Botswana) and Swaziland to conduct a general survey of the requirements and natural resources of the territories and to make recommendations on the utilisation of the financial resources that could be made available to the territories. The report was titled 'Report on Economic Survey Mission' (1960).

high return' (Manzer 1964: 777). The Special Fund extensively employed the Food and Agriculture Organisation (FAO). Following independence, the Government of Botswana requested assistance from the UN as well as from bilateral donors in conducting surveys and feasibility studies. Most important were two sets of studies (1968-1972 and 1974-1976) completed under UNDP/FAO (Scudder 2003; 2005). The 1968 project was to conduct 'Surveys and Training for the Development of Water Resources and Agricultural Production'. Its activities encompassed the establishment of a hydrological survey network throughout Botswana, as well as rainfall, evaporation and groundwater studies, experiments in agriculture, soil surveys and sociological research. This project confirmed beyond doubt the technical feasibility of transferring water from the Okavango Delta for use outside the area (Ernest 1976). This was the beginning of work that had been recommended since 1900. Enough impetus had been built up to ensure that all aspects of the Okavango and Ngamiland would be adequately investigated (Potten 1976). The 1974 project was entitled 'The Investigation of the Okavango Delta as a Primary Water Resource for Botswana'. Commercial cattle production and mining interests to the south of the country were particularly keen to access the Okavango Delta's waters.

The main aim of these investigations, and many others before and after, was to understand the physical characteristics of the Okavango Delta system in order to control its water for the purposes of various activities such as irrigation, recreation, industry, tourism and water supply for human use. In contrast with those conducted in early colonial days, the more recent projects recognised the importance of understanding the impacts of these projects on the environment and on the livelihoods of local people. Overall, the UNDP/FAO project was designed to provide some key data needed to assist in water plans and related national water policies and thus develop a firm factual basis for shaping international understanding as to the use of the Okavango waters (Ernest 1976). H.M. Ernest (Ibid) was a member of the UNDP/FAO project team, and told a symposium on the Okavango Delta in 1976 that the project would 'furnish much of the information necessary to ensure that such a national water plan incorporates an effective long-term programme for expanding and controlling the uses of the Okavango waters, while improving the living standards of the local people, conserving the varied resources of the Delta, notably its wildlife and retaining the potential of the area for recreation and tourism' (p.337). Despite recognition of the potential impacts of the various proposals made, the general theme of the studies at this time was the 'untapped potential' of the Okavango (Potten and Spintz 1976: 317). Parallel to these arguments, however, were other views that the Okavango Delta system should not be exploited on a large scale, but instead be allocated for wildlife tourism purposes. The tourism industry was already developing in Botswana,

but this was largely outside government control, and in the hands of a few white expatriates engaged primarily in safari hunting.

Also worth mentioning is a SIDA-funded (Swedish International Development Corporation) study conducted on behalf of the Ministry of Mineral Resources and Water Affairs in 1973 (Scudder et al. 1993). This work, conducted by the Swedish Consulting Group (SWECO), included studies of water demand, irrigation feasibility, soils, water extraction and water transfer schemes (Potten and Spintz 1976). The water transfers were investigated primarily for the supply to the Orapa diamond mine, 200 kilometres south-east of the Okavango Delta. In this regard, SWECO concluded that pumping water to other areas outside the Okavango region, though possible, would be too costly. The SIDA/SWECO studies and recommendations presented a counter-narrative to the large-scale engineering focus characteristic of the earlier project proposals, and also gave attention to the impacts of the projects on both the livelihoods of the Okavango Delta people as well as on the environment. They emphasised the need for deeper understanding of the ecosystem, in addition to consideration of environmental conservation and local poverty reduction aspects of water development projects. The SWECO findings were, however, mostly used by other studies to further investigate the physical characteristics of the ecosystem rather than inform the water development approaches *per se*. Powerful mining interests were at this time steering the direction of developments towards a path of exploitation of the Okavango waters for mining. As Thayer Scudder, an anthropologist who led the IUCN review of the SOIDWP project, later observed:

> […] de-emphasis on groundwater research in the Delta suggested to me that high government officials had approved the project to serve the mines and had told officials in the Department of Water Affairs to get on with it. I also wondered about the extent to which hydropolitics and possibly corruption were pushing for a big project with inadequate attention to alternatives (2003: 14).

The government commissioned Anglo American Corporation to begin works to dredge the lower channels of the Okavango Delta in order to increase flow to the Boteti River, south of the Delta. This involved the conversion of a floodplain into a canalised river (Ellery and McCarthy 1994: 362). The dredging happened between 1971 and 1974, and by the end of the works, the Boro River (the main drainage channel of the Delta) had been deepened by approximately 3.5 metres for a distance of 4.5 kilometres. The project was terminated in December 1974 due to technical problems; it also resulted in an outcry from local conservation groups about the ecological consequences of such an activity (Lubke et al. 1984). The effect of channel excavation and bunding would have been to reduce the area flooded on a seasonal basis, thereby reducing evapo-transpiration from those areas and increasing outflow (Scudder et al. 1993). As noted earlier, about

98% of the Okavango Delta water is lost to evapo-transpiration. Dredging the Boro River would supposedly reduce the rate of evapo-transpiration, but it would also mean that livelihoods based on floodplain agriculture would be considerably negatively affected, as the area used for this method of agriculture would be reduced. According to Lubke et al. (1984), who were later contracted by the mining company that had commissioned the dredging (Debswana Mining Company, formerly De Beers) to study the environmental impacts of the project, the major and visible detrimental effects of the project were the creation of spoil heaps of dredged mud and sand deposited along the floodplain of the river. Further major disturbances to the whole ecosystem were anticipated in view of the change in the hydrological character of the river and the creation of new and different habitats (Ibid). According to Murray-Hudson and Wolski (2006), colonisation of the floodplain by woody species has since been observed in the lower parts of the Boro floodplains.

The real and imagined impacts of these dredging works on the environment and livelihoods of the southern Okavango Delta communities would later play a significant role in the opposition to the SOIWDP project by local communities and conservation organisations.

3.6.2 The SOIWDP

Based on the recommendations of the UNDP/FAO investigations that concluded in 1976, the Government of Botswana embarked on the SOIWDP in the early 1980s.[38] What became the SOIWDP was selected as the least environmentally damaging of several proposed schemes (16 according to Scudder, 2005: 201) recommended by different studies (Thomas and Selolwane 1998), dating back to the 1950s, with further elaboration in the mid-1970s, as discussed above. According to the Department of Water Affairs, the main participant in the project (cited in Scudder et al. 1993: 34), the broad goals were: increased flood production; creation of employment opportunities; improved utilisation of land and water resources; and raised standards of living. Specific project goals were to provide 10,000 hectares of commercial irrigation, 5,000 hectares of floodplain cultivation, improved fisheries and an improved water supply for riverine communities and their livestock. Urban industrial goals were to meet the rising demand for water at the Orapa-Letlhakane diamond mines and to enable Maun to become a major growth centre for Ngamiland. Wildlife and tourism were also to benefit. The government's development plans for the Okavango were grandiose, and part of the nationalist project of economic development that Botswana was embarking on at the time, in which mining development played an important part. By the early

[38] An inter-ministerial committee, Okavango Water Development Committee was formed in 1982 to review the project plans.

1980s, diamonds had replaced beef as the country's leading foreign exchange earner, comprising 40% of total exports in 1981, and rising to as much as 87% in 2001 (Taylor 2005: 43).

The SOIWDP was to be implemented in two phases, called the 'Upper Works' and the 'Lower Works'. The Upper Works was a four-component scheme including the 'Lower Boro River Improvement Works' and the construction of three reservoirs (Matlapaneng, Samedupi and Sukwane reservoirs) (Scudder et al. 1993). The Lower Works were to be phased in at a later date. The Lower Boro Improvement Works, part of the Upper Works, were designed to improve on the earlier dredging work carried out by Anglo American in 1972-1974, as this had not been completed (Ernest 1976). It would involve additional dredging to remove a series of flow-restricting bars and a general lowering of the bed of the Boro River. The flow from this river would be restored in one of the three planned reservoirs (Maun reservoir), which would be impounded behind dams to be built further downstream (Thomas and Selolwane 1998).

According to Neme (1997) and Thomas and Selolwane (1998), the aims of the project changed considerably over the years in which it was being developed. The original goal was increased food production in the context of national planning policies, which, at the time, emphasised the goal of national food self-sufficiency. However, after several reviews that revealed that the agricultural components of the project would not be significantly successful, due partly to poor soils, the goal of increased food production (both from commercial irrigation and flood-recession agriculture) was dropped as a primary aim of the project in 1988 (Neme 1997; Thomas and Selolwane 1998). Priority was subsequently given to supplying water for Orapa mine and Maun village. When the contractor began mobilisation in November 1990, strong local opposition to the project arose (Scudder et al. 1993; Neme 1997). As Thomas (2003: 216) notes: 'local environmentalists and others campaigned against the project, mobilising local communities and forming an action group which later became the Tshomarelo Okavango Conservation Trust (TOCT)'.[39] He adds: 'when the earth-moving equipment arrived in Maun, white residents reacted quickly…' (p.219). Following a major meeting to solicit views of the local community in Maun in January 1991, the government suspended the project and agreed to seek further review (Scudder et al. 1993; Neme 1997; Thomas and Selolwane 1998). International NGOs also became involved in different ways, notably Greenpeace and IUCN (Thomas 2003).

[39] In English this would translate to 'Protect Okavango' or 'Save Okavango'. This NGO was founded specifically to oppose the SOWIDP (Scudder 2005: 202).

3.7 Changing perceptions and shifting policies: opposition to the SOWDP and development of tourism and conservation

Local opposition to the project resulted in its suspension while an independent study was commissioned. Following mounting campaigns by international NGOs, the Government of Botswana eventually 'terminated' the SOIWDP in May 1992, after more than ten years of planning. As will be discussed in Chapter 4, the Okavango Delta subsequently became the main focus of Botswana's strict conservation policies. The focus on conservation came at a cost to Botswana's plans, and in many ways demonstrated the power of international environmental actors in limiting national sovereignty over environmental resources of international significance (Thomas 2003). Opposition to the project came from two main strands: public campaigns by local communities, local conservation organisations, the tourism sector and an international campaign led by Greenpeace International; and a technical review of the project by IUCN, discrediting it.

3.7.1 'Diamonds are for Death': the campaign against the SOWDP

'Diamonds are for Death': this was the slogan that the Greenpeace Amsterdam office used, or threatened to use, in its campaign against the SOIWDP (Neme 1997: 40; Thomas and Selolwane 1998: 1; Scudder 2005: 201). According to Neme (1997), the goals of the SOIWDP were initially viewed positively; they were supported by district officials who were concerned about the severity of drought conditions in the area, and by local residents who also had concerns about the dwindling water resources, although they also feared the negative impacts of dredging (straightening and canalising) on the rivers. These fears were based on the demonstrated failure of similar efforts undertaken from the 1930s to the 1970s. Various environmentalists, including members of the Maun branch of the Kalahari Conservation Society (KCS) – the largest local NGO, originally comprised of white expatriates – opposed dredging because of concerns about its potentially harmful consequences for the surrounding ecosystem. Virtually all white expatriates in the Okavango Delta area at the time were either working in conservation or in the tourism industry, and believed that the Okavango Delta should not be developed, but instead be reserved for tourism and conservation. Locals, on the other hand, did welcome developments to their region, but also based their livelihoods on the region's wetland resources, including floodplain agriculture and fishing, which were potentially threatened by dredging (Neme 1997). According to Furniss (2003), however, local opposition was initially limited because dredging was not specifically mentioned; instead, the term 'river improvement' had been used in consultations by the project committee, implying limited work. According to Thomas and Selolwane (1998), no public announcement had

been made about the SOIWDP since its cabinet approval in late 1988, so the Maun community was taken by surprise by the arrival of contracting engineers from the South African Company LTA in early November 1990. This prompted action, and events then moved very fast. Opposition started locally, but quickly involved Europe-based international NGOs.

3.7.1.1 Local opposition to the project

The local residents called meetings and organised themselves into an action group (Furniss 2003). As noted, the quickest to react were the white residents, most of whom formed the Maun branch of Kalahari Conservation Society (KCS), and who were critical of the main branch of KCS for not taking a stand against the project (Thomas and Selolwane 1998; Thomas 2003). According to Thomas (2003: 218), radical conservationists questioned the 'independence and impartiality' of KCS, suggesting that it was both too close to De Beers (the South African diamond giant) and effectively controlled by the Botswana Government. Many would later resign from the NGO. The allegations against KCS were not unfounded as, since its formation in the 1970s, the head of Debswana (the joint venture between De Beers and the Government of Botswana that runs Botswana's diamond mines) had been the chair of KCS, and remained so until his retirement in 2004. The Maun KCS branch mobilised other locals and held their first meeting in November 1990; this was also attended by a large number of local people, including chiefs (Thomas and Selolwane 1998). According to Scudder (2005: 202), 'at least 700 people participated, most of whom were local villagers. The outpouring of opposition to the government's position may well have been the strongest attack on any government policy since independence in 1966'.

The concerns raised by the locals centred on the extent to which the proposed project could actually meet the intended objectives of improving water supply, and strong objections were made in particular against dredging (Neme 1997; Thomas and Selolwane 1998). Speculations were also made about the possible ecological impacts of the project on not only the Delta and the rivers, but also in terms of the possible negative effects on rural livelihoods that depended on the seasonal flooding at the proposed project sites (Neme 1997). According to Thomas (2003: 219), 'it was recognised that the local campaign had to demonstrate clearly that opposition was widespread and not confined to a minority with interests in conservation and tourism'. An informal steering committee was formed to contact authorities on behalf of the Maun community. Although white conservationists had taken the lead in calling the meeting, locals made suggestions to mobilise more people, follow the proper channels and engage the government through a public (*Kgotla*) meeting (Thomas and Selolwane 1998). Members of the newly-formed committee included prominent

members of the community, three of whom would later hold high political positions, including those of Assistant Minister and Chairperson of the District Council. The Minister of Minerals and Water Affairs held the meeting in Maun in January 1991, at which the same concerns were expressed. Shortly after the meeting, the Minister announced that the project had been suspended pending further investigations (Thomas and Selolwane 1998; Thomas 2003). The reason given was that it had become clear at the meeting that certain members of the community still had reservations about the project. The Government, however, restated that the project offered long-term solutions to the water shortage in Maun and other settlements along the Boteti and Nhabe Rivers. The assertion that there would be no serious environmental impact was reiterated, and the potential benefit to birdlife around Lake Ngami (which had been dry since 1884) was mentioned (Thomas and Selolwane 1998).

Contacts had, however, already been made with individuals and environmentalist NGOs in South Africa, USA, UK and elsewhere in an attempt to gather international support for a campaign against SOIWDP. According to Neme (1997), the South African media in particular was actively involved in publishing stories and views from Botswana and abroad. Thomas and Selolwane (1998) note that the connection between SOIWDP and diamond mining was used early in the political debate about the project, and provided potential ammunition for some of the scheme's opponents. Suggestions were made in the South African media that Greenpeace was considering launching an international campaign called 'Diamonds are for Death', counter to De Beers' 'Diamonds are Forever' slogan, to save the Okavango swamps; the media also quoted the UK's Environmental Investigation Agency (EIA) as fully supporting the protest (Johannesburg *Sunday Times*, December 2, 1990; *Saturday Star*, December 6, 1990; *Sun*, December 11, 1990, cited in Thomas 2003: 219). Greenpeace is reported to have written to the Botswana government and to De Beers on December 7, 1990 enquiring about the project (Ibid). That same day, De Beers announced in a press release that it had no direct involvement in the project and that it was in the process of carrying out a search for underground water sources closer to the mine (Neme 1997; Thomas and Selolwane 1998). The Botswana government, on the other hand, invited Greenpeace to 'come and find out' (Thomas 2003: 219). Inviting Greenpeace to come and conduct an independent investigation could be looked at as Botswana's way of sending a message to the international community that it was willing to cooperate and was open to negotiation, and, in particular, that it observed democratic principles and welcomed opposition to its policies. Perhaps the government was convinced that, upon conducting the investigation, Greenpeace would change its mind about the perceived negative impacts of the project. Diamond mining is, and remains, important to Botswana's economy, and the government is

careful to protect the integrity of the minerals at any cost, even if it means foregoing developments to the Okavango Delta. However, some, including Thomas (2003: 224), argue that the government dropped the project because the interests of the major economic stakeholders (i.e. the beef and diamond industries) in the SOWIDP were low and not particularly threatened by its termination. Orapa was already using groundwater resources for the mines and did not particularly require additional water supply, and 'so there was no point in De Beers risking its international reputation with international environmentalists by backing the scheme' (Ibid).

3.7.1.2 International opposition to the project

Greenpeace sent a team of investigators to Botswana from 29 January to 12 February 1991, which comprised a Greenpeace board member, a wildlife campaigner and the Head of Communications (Thomas and Selolwane 1998). The visit also included investigations of the 'buffalo fence', a veterinary fence erected to separate wildlife from livestock in order to control the spread of livestock diseases, particularly Foot and Mouth, which can be transmitted from buffalo to cattle (Mbaiwa and Mbaiwa 2006). The erection of the buffalo fences in 1982 (with assistance from FAO) had also sparked controversy, both locally and internationally, amongst conservationists (including IUCN), who argued that the fences were restricting the movement of migratory wildlife across the Delta. In the same vein as with the SOIWDP, it is reported that, during the same period, there were threats to boycott Botswana beef, as cattle production was seen to be threatening the integrity of the Okavango Delta (Thomas and Selolwane 1998). The Johannesburg Weekly Mail, January 11-17, 1991, is reported to have carried an article under the headline 'Beef Barons threaten the Okavango', in which it stated that the 'famed Okavango swamps are under a twin threat from dredging of the area and encroachment by cattle' (Thomas and Selolwane 1998: 17).

At the end of the Greenpeace visit, a joint press communiqué was issued by the Botswana Government and Greenpeace International stating that Greenpeace had 'appealed to the Government of Botswana to establish the Okavango Delta Ecosystem as a World Heritage Site' and also sought assurance that plans to dredge the Boro River would be abandoned (Thomas and Selolwane 1998: 20; Thomas 2003: 220). It is reported that in the same communiqué the Minister of Minerals and Water Resources said that Botswana was considering the issue of the Okavango being declared a World Heritage Site and joining the Ramsar Convention, and also confirmed the suspension of the SOIWDP (Thomas 2003: 220). However, the Botswana government reiterated that it still might implement the project if ultimately it was the only option through which the water needs of Maun and other communities could be met (Thomas and Selolwane 1998). Meanwhile, the

Botswana government commissioned an independent review of the whole SOIWDP project by an international environmental agency, the IUCN (Scudder et al. 1993; Neme 1997). The IUCN was chosen by the government to conduct the review based on its 'global expertise in natural resource management, in particular its work on wetland ecosystems, and in the context of its growing programme of activities in southern Africa and established collaboration with the Government of Botswana', as noted in the Memorandum of Understanding (MoU) between the IUCN and the Government of Botswana on the review of SOIWDP (Scudder et al. 1993: 484). The MoU agreed that the IUCN would recruit an interdisciplinary team to carry out the review. The IUCN team, led by an anthropologist, Thayer Scudder, and including twelve other natural and social scientists, began work in October 1991 and completed a draft final report in May 1992 (Scudder et al. 1993). Thayer Scudder had been working on issues of large-scale development projects and the social and ecological impacts of such projects, and generally opposed such mega-projects (see Scudder 1973; 1991 and 2005). The IUCN review was concluded a month ahead of schedule and recommended that the project be terminated. An 'IUCN preferred alternative', recommending less drastic measures, was proposed.

The IUCN review (Scudder et al. 1993) concluded that even if the project had worked as intended, it would neither have achieved its goals of raising the living standards of people nor increased food production. It argued that the project had been justified on humanitarian rather than economic grounds, but the review's analysis showed that the low-income rural majority would in fact have been worse off if the scheme had gone ahead. The review stated that this reason alone would be sufficient to terminate the project, but other reasons were also given that further discredited it. These included the uncertainties surrounding the long-term natural outflow from the Delta, the extra outflows to be gained from channelisation and losses from the Maun Reservoir. 'Strong opposition to the project throughout the most impacted areas' (Scudder et al. 1993: 75) was cited by the review as one of the most compelling reasons to abandon the project. 117 pages of the report were dedicated to outlining the 'IUCN's preferred alternative', which suggested that the proposed project solutions could be achieved by using other water resources. Among these suggestions were that groundwater aquifers could be identified as primary water sources for Maun, and that Orapa mine could continue using groundwater sources (Scudder et al. 1993). In summary, the IUCN alternative made a case for the improvement of the living standards of the rural population through a range of small-scale measures. These included building on the potential offered by water-related natural resources such as thatching grass, reeds, fish and wildlife, and integrating the village sector into the development of Maun and the tourism industry (Scudder et al. 1993).

On the same day that the IUCN draft report was released (May 21, 1992), the Government of Botswana announced in a radio broadcast that the SOIWDP had been 'terminated', and it was made clear that the cancellation was not because of the technical critique in the IUCN report, but because of the extent of local opposition (Thomas and Selolwane 1998; Thomas 2003). According to Scudder (2003: 12), 'the announcement was made brilliantly both as a saving face event and in a way to emphasise the government's democratic procedures. No mention was made of IUCN or the IUCN report'. Scudder has criticised the Botswana government for failing to respond to the IUCN report and not even appraising the team's 'preferred alternative' (Scudder 1994, cited in Thomas 2003: 221). He also concludes that not only was 'the Government of Botswana extremely annoyed with IUCN, but was also trying to punish the people of Ngamiland for opposing the project' (Scudder 2003: 19). The Director of Water Affairs at the time is reported to have made it clear to Scudder that had the review been undertaken on the basis of a direct contract with the government it would not have been accepted, and its public release would not have been allowed (Thomas and Selolwane 1998).

This would be the last major water development project to be proposed for the Ngamiland region, and from that time on the focus shifted to conservation and tourism development. Maun continues to depend on groundwater sources for its water supply. Disruptions to the piped water supply are common in all of Ngamiland, and in rural many areas, communities generally rely on using the river directly for all household needs, including drinking water. As Chapters 5 and 6 will show, communities along the Okavango Delta continue to fish, collect reeds and farm as they did prior to the project proposals, although there is a pattern of marginalisation of subsistence users from accessing these resources due to the increasing importance of conservation and commercial tourism.

3.7.2 Parallel developments in Botswana's environmental policy, discourse and practice

The international environmental community through UNEP, and bilateral donor institutions such as NORAD, USAID, the European Commission (EC) and others, have actively engaged with the Botswana government on environmental policy and management issues. Earlier writings about Botswana by colonial officers, visitors and researchers had pointed to the environmental crisis looming in Botswana and recommended programmes to arrest the situation of overgrazing, overstocking and general environmental degradation. The Morse Commission report stated in 1960 (p.45) that: 'the most striking features about the Protectorate are…the deterioration of pasture under poor management and the over-concentration of cattle'. Similar statements have been repeated over

the last four decades by different generations of scholars, scientists and 'experts' of different kinds, including locally-based ones. An instrumental development was the creation of Botswana Society, an organisation that brought together scientists, researchers, scholars and decision-makers to debate important development issues in Botswana, which publishes an annual peer-reviewed journal titled *Botswana Notes and Records*, on subjects in the fields of natural sciences, social sciences, the humanities and the arts. In its early days, Botswana Society had either the country's President or Vice President as its chairperson. It has also convened a number of symposia on issues such as 'The Okavango Delta and its Future Utilisation' (1976) and 'Drought in Botswana' (1978), and these were often sponsored by organisations such as USAID, UNEP, UNICEF and the British High Commission. Technical presentations were often made to the Society by experts with links to such organisations and universities in the West, with widespread participation of government officials. Often, these symposia directly informed government policy. As a presenter and member of the Society noted at the 1978 Symposium on Drought in Botswana: 'this symposium was of great assistance to Government thinking and decision-making with regards to land-use, and a completely new policy has now evolved known as the Tribal Grazing Land Policy' (Cooke 1978: 12). As will be discussed in detail in Chapter 5, the Tribal Grazing Land Policy (TGLP) was introduced as a response to the perceived land degradation problem and privatised a significant amount of communal grazing land into cattle ranches in order to reduce overgrazing.

In response to many of the perceived environmental problems in Botswana, the international community began work to address them. In April 1983, a high-level mission from UNEP was sent to Botswana to identify the country's most serious environmental problems (Campbell and Cooke 1984). Following this mission, UNEP selected Botswana as the African country that would be studied for the development of an integrated programme for dealing with *serious* environmental problems (Ibid) (emphasis added). A technical mission then followed in November 1983 to define a comprehensive long-term environmental strategy, to also examine the framework for this strategy, and to recommend modifications and adjustments to policies, institutions, legislation and planning methodologies that would facilitate the implementation of the strategy. According to Cooke and Campbell (1984), soil erosion, energy, desertification and wildlife management were pointed out to the UNEP mission by the Government of Botswana as areas needing special attention in the medium- to long-term. Water scarcity and water resource management in general were identified by the government as the most pressing problems needing special attention in the short-term. The main recommendation, as identified within the mission's terms of reference (Cooke and Campbell 1984),

was the development of a national conservation strategy. Other recommendations included: research on the management and restoration of rangeland and activities such as the reclamation of areas; stabilisation of sand dunes; and improvement to the firewood situation in some parts of the country. A programme for comprehensive planning of the utilisation of the Okavango Delta was also among the main recommendations (Ibid). Opening the first workshop on The Management of Botswana's Environment[40] in 1984, the then Vice President and Chairperson of the Botswana Society, Ketumile Masire, reiterated that the most serious environmental problems faced by Botswana were, among others, 'drought; management of limited water resources; widespread deforestation and insufficient forestation; control of overgrazing; desertification; soil erosion; lack of a coordinated environmental legislation; and a *serious lack of environmental consciousness amongst our people'* (Campbell and Cooke 1984:7) (emphasis added). A similar workshop followed in 1987, this time focusing on the National Conservation Strategy, which had been under development for four years following the 1983 UNEP mission. Opening that workshop, the then Vice President of Botswana and Chairperson of the Botswana Society, the Honourable Ketumile Masire, noted that problems such as 'overgrazing, depletion of veld products and wildlife, disappearing woodlands and pollution are testimony to the importance, urgency and complexity of a conservation strategy' (Cooke and Campbell 1987: 6). Over the following years, the National Conservation Strategy would continue to be developed with financial and technical assistance from donor and non-governmental organisations including NORAD, Swedish Sida, the EC, USAID, UNDP and the IUCN. The IUCN was a leading facilitator in developing the National Conservation Strategy (NCS), as Botswana had just joined it as a member in 1984; the NCS laid the foundations for Botswana's environmental policies. Botswana's IUCN membership also facilitated the government's decision to appoint the IUCN to carry out the technical review of the SOIWDP. Chapter 4 further discusses the work of international organisations in the Okavango Delta, and in particular the implementation of the Ramsar Convention and the UN Convention on Biological Diversity (UNCBD). All this parallel work was ongoing while Botswana was making plans to build dams downstream of the Okavango Delta, and so by the time the project had been suspended and then terminated, a strong conservation foundation had been laid in Botswana. Chapters 5 and 6 will discuss the role of this conservationist foundation in shaping Botswana's environmental policies and management practice, and the outcomes for Okavango Delta livelihoods.

[40] This workshop was organised to discuss the 1983 UNEP Report. The discourse was similar to that of UNEP and painted a gloomy picture about Botswana's environment being 'in [a] state of stress and degradation' (Campbell and Cooke 1984: 11).

3.7.3 Policy shift towards the Okavango Delta: from exploitation to conservation

By the time the SOIWDP was conceived in the 1980s, part of the Delta had already come under protection as a game reserve in 1963 under the colonial government. Moremi Game Reserve, and the Delta as a whole, was already supporting a booming tourism industry, although the Botswana Government was not directly involved in its development. Botswana also adopted a Wildlife Conservation Act in 1986 and a strict wildlife conservation focus was institutionalised, building on the rigid regulatory regime that had existed during colonialism. Estimated at 200,000 in 1976 by the Ministry of Agriculture (Thompson 1976: 9), increasing cattle populations were seen as a potential threat to wildlife stocks in the Delta. 'The great threat to wildlife is the impending eradication of the tsetse fly and the inevitable expansion of domestic grazing stock', noted an ecologist from the University of Waikato, New Zealand at the Botswana Society's Symposium on the Okavango Delta (Thompson 1976: 9). At this symposium, calls were made for the promotion of wildlife conservation and tourism above agricultural production, in particular livestock production. In response, the government built cordon fences in the Okavango Delta to separate cattle from wildlife. Between 1982 and 1996, several cordon fences were constructed to prevent the transmission of livestock diseases such as Foot and Mouth disease (FMD) and Contagious Bovine Pleuro-Pneumonia (CBPP), or cattle-lung disease, and to restrict the movement of livestock into areas designated for wildlife use. These veterinary fences remain controversial among farmers, those involved in tourism and conservationists in the Okavango Delta, as well as around the world. As will be discussed in Chapter 5, farmers complain that the fences block their cattle's access to grazing areas, while conservationists argue that the fences block wildlife migration routes (see Albertson 1998, and Mbaiwa and Mbaiwa 2006 for discussion of the negative impacts on wildlife). The interests of the government were by now strongly focused on preserving both the tourism potential of the Okavango Delta, which necessitated keeping the Delta cattle-free, as well as securing the Europe-bound Botswana beef exports from Foot and Mouth contamination. For the government, the veterinary fences solved this twin problem.

Other than local issues, factors outside Botswana also contributed to a shift in the Botswana Government's policy towards the Okavango Delta as a natural resource. The formation of the Southern African Development Community (SADC) in 1980, and its transformation in 1992 into a regional development community saw an emphasis on regional integration and coordinated development of the region by all SADC members. The role of shared water resources in regional development was emphasised early by the SADC, and in the year 2000, SADC members signed a

protocol on shared watercourses. The SADC region has 15 shared water courses, and many are shared by more than two countries, with the Zambezi shared by as many as eight countries, including Botswana. This reason, and the fact that southern Africa is generally water stressed, makes cooperation over shared water resources important. The SADC Water Protocol emphasised the role of cooperation in the governance of shared water resources in order to promote regional economic development and peace, and to reduce potential conflict from the use of shared water resources. Since the ratification of the SADC Water Protocol by all 14 SADC members, significant bilateral and multilateral donor support has been made available to the SADC and its members by organisation such as USAID, Sida, GTZ, the EU and others to promote institutional development for cooperative governance of water resources.[41]

3.7.3.1 Regional hydropolitical drivers in the Okavango River Basin

The success of Botswana's tourism industry demonstrated the increasing importance of the Okavango Delta to Botswana and the need to maintain its ecological integrity. However, being downstream of an internationally-shared river poses a challenge to Botswana's control over the entire Okavango River, increasing the need for cooperation with the upstream countries, Angola and Namibia (Swatuk 2005; Klaphake and Scheumann 2009). Botswana therefore had to cooperate with Namibia to lobby Angola into signing the Permanent Okavango River Basin Commission (OKACOM) Agreement in 1994, establishing a tripartite water commission (Heyns 2007). Through this institution, water development plans are discussed and decisions are jointly made to facilitate cooperative governance of the shared water resources (Pinheiro et al. 2003). OKACOM, however, only plays an advisory role to the three governments and has no decision-making powers.

All the basin countries see the Okavango River Basin as a potential source of development opportunities (Kgathi et al. 2006). Many development plans and projects have been proposed throughout the years but the basin remains relatively underdeveloped. Namibia uses water from the Okavango River mainly for large-scale irrigation. In total, about 22 Mm^3 (about 0.25% of flow) of water is abstracted from the Namibian part of the basin, and about 74% of this supplies agricultural irrigation schemes, while 15% is taken by rural people for their livestock and 11% is used for the town of Rundu (Mendelsohn and El Obied 2004). Namibia also has plans that, once implemented, would raise the total amount of water extracted from the river to about 134 Mm^3 per year, or 1.4% of all water that leaves Namibia (Ibid). Namibia has proposed other major plans, but these are on

[41] These include the USAID Integrated River Basin Project, which I worked with to support institutional development of the Okavango River Basin Commission (OKACOM).

hold due to the perceived potential threats to the downstream Okavango Delta Ramsar Site (Heyns 2005; 2007). Angola has so far not proposed any major development plans in the basin, but opportunities exist: a feasibility study undertaken in 1974, before the war, revealed a potential for the generation of 350 MW of hydropower and the irrigation of 54,000 hectares (Kgathi et al. 2006). Discussions about the development and economic utilisation of the basin continue between the three countries at the river basin organisation (OKACOM) level. However, the Okavango Delta and its conservation continue to remain central to the question of how much development can be allowed upstream of the basin, and, as a result, this has significantly shaped the development paths of the two upriver countries, particularly for Namibia, which is drier.

Namibia's interest in the Okavango River pertains to water supply to the city of Windhoek, which has no access to surface water resources. In fact, like in Botswana, plans to abstract water from the Okavango River in the north of Namibia were made during South Africa's administration of Namibia (Heyns 2007). These plans intensified in the 1970s, but many never fully materialised, or were shelved, to be resuscitated after Namibia's independence in 1990. They have also been contested by different actors within Botswana and by internationally-based actors the on grounds that they pose a threat to the sustainability of the downstream Okavango Delta, which depends almost entirely on the flow from the river. Some of the opposition has been advanced by tourism companies operating in the Okavango Delta, as well as by communities in the Okavango Delta area, and this put pressure on the Botswana government to investigate the proposed Namibian plans (Ramberg 1997).

A water transfer project (Eastern National Water Carrier) that involved the construction of three dams and a 250 kilometre pipeline from the Okavango River to central Namibia (Windhoek area) was initiated in 1975 for completion in 1986 (Boege 2009). Following the uncertainties leading to Namibia's independence in the late 1980s, the project was delayed with four out of five phases already completed (dam constructions); only the fifth phase, the 'Rundu-Grootfontein Pipeline', remains to be completed (Pinheiro et al. 2003; Heyns 2007). When Namibia proposed to complete the pipeline in 1996 in response to the 1995/96 failed rainy season, concerns were raised by environmental interest groups in Namibia, international NGOs (e.g. Conservation International and International Rivers Network) and those in Botswana's tourism industry (Mbaiwa 2004) about the implications for the Okavango Delta's ecological integrity. Many of these groups were unaware of the long-standing Namibian intentions to utilise the water, and very few understood that Namibia was complying fully with the provisions of the 1994 OKACOM Agreement (Heyns 2007). The

project had to be shelved, despite the fact that technical assessments concluded that the impacts would be minimal and possibly not measurable by conventional techniques (Ashton 2000). In response to studies carried out in 1969 by the South African government to develop hydropower, Namibia also announced plans in 2001 to conduct a further pre-feasibility study on the possibility of constructing a hydropower plant at Popa Falls (near the Caprivi Strip) on the Okavango River. Similar concerns were raised about the potential threats to the Okavango Delta swamps. New studies showed that, although the project was technically feasible, the in-stream processes of sediment transport, which are important to the functioning of the Okavango Delta, might require major mitigation if the project proceeded (Kgathi et al. 2006; Heyns 2007). This project was also eventually shelved. Since the termination of the SOIWDP project, there has been regional and international opposition to any propositions to carry out major projects on the Okavango River system, based on fears that these may bring irreversible damage to the Okavango Delta.

In the same year that Namibia proposed building the Rundu-Grootfontein pipeline (1996), Botswana and Namibia submitted a territorial dispute case to the International Court of Justice in the Hague, Netherlands, over a small (3.5 square kilometre) stretch of land (Sedudu/Kasikili Island) on the Chobe River, north-east of the Okavango Delta (International Court of Justice 1996; Salman 2000; Shaw and Evans 2000; Ashton 2003). According to Ashton (2003), the Chobe River divides around the island, flowing to the north and south, and the island is flooded to varying depths for between three to four months each year, following seasonal rains. Both countries claimed that the main channel of the island lay within its sovereign territory. After a protracted debate and intermittent threats of military action, including military occupation of the island by the Botswana Defence Forces, the ICJ ruled in favour of Botswana on the basis that the 'main channel' lay within Botswana's territory (i.e. the northern channel was defined as the main channel) (Ashton 2003). Namibia respected the decision of the ICJ and, as decided by the court, the two countries agreed to allow unimpeded navigation of craft in both the northern and southern channels around the island (International Court of Justice 1996).

After a series of years of below average rainfall a disastrous water shortage crisis was foreseen and in 1996 Namibia announced its intention to extract water from the Okavango as quickly as possible, as an emergency measure (Thomas 2003). In December of that year (the same year that the two countries submitted their Sedudu/Kasikili Island case to the ICJ), Botswana submitted an application to the Ramsar Convention Secretariat to list the Okavango Delta as a Ramsar Site. Botswana became party to the Ramsar Convention in April 1997, listing the world's largest Ramsar

Site. Most observers, such as academics and (unofficially) government officials in Namibia (see Ramberg 1997; Turton, Ashton and Cloete 2003; Swatuk 2003; Klaphake and Scheumann 2006) argue that Botswana's decision was taken as a result of narrow national interests: 'that upstream threats to the Delta, in particular planned abstraction by Namibia and the *potential* for the same by a peaceful Angola forced policy-makers in Botswana to try to locate regional water disputes within a framework of global interests' (Swatuk 2003: 901) (emphasis in the original). This was done despite similar suggestions made earlier and not immediately responded to (e.g. 1991 suggestions by Greenpeace to declare the Okavango Delta a World Heritage Site and/or a Ramsar Site, and the 1992 IUCN review of the SOIWDP) (Scudder 2005). As Klaphake and Scheumann (2006: 18) argue:

> Out of the three riparian countries, Botswana was most vulnerable to upstream uses and heavily relied on transboundary cooperation. For Botswana, the Okavango Delta bears importance for its tourist industry and its local population. Therefore, it eagerly declared the Delta as a Ramsar Site in 1996 to restrict planned water use in Namibia and Angola.

Thomas (2003: 225) notes: 'thus the claim that the Okavango should be regarded as a global common has shifted from being an NGO strategy in opposition to Botswana government's claim of sovereignty over natural resources within the state boundaries, to being part of the government's own strategy for protecting the same resources from sovereignty claims by another state'. Aligning its interest with those of international conservation organisations guaranteed widespread international support for the Botswana Government's conservation plans for the Okavango Delta. Klaphake and Scheumann (2006: 18) conclude:

> In its efforts the government of Botswana was supported by international and national nongovernmental organizations. Intensive lobbying has taken place by the Okavango Liaison Group, a coalition of non-governmental organizations formed in 1996, comprising e.g. the Kalahari Conservation Society, Conservation International, Namibia Nature Foundation, Desert Research Foundation of Namibia, the Okavango Wildlife Society, and the Integrated Resource Development and Nature Conservation. The International Rivers Network was actively involved in forming this coalition. Other international actors involved are International Union for the Conservation of Nature (IUCN), World Wildlife Fund, Green Cross International, and Greenpeace. In this way, Botswana was able to strengthen its position as the most downstream country, but also limited at the same time its own development efforts.

Foregoing developments on the Okavango Delta has strengthened Botswana's control over the entire basin to promote its 'eco'tourism interests, which it has strategically aligned to international conservation interests. Namibia continues to lobby for a share of the resource through OKACOM. Angola is, however, seen as a sleeping giant, whose position as the most upstream country has not yet been exploited by the Angolan authorities (Swatuk 2003).

3.7.3.2 International conservation and eco-tourism development on the Okavango Delta

Since the termination of the SOIWDP and the subsequent listing of the Okavango Delta as a 'Wetland of International Importance', or Ramsar Site, conservation activities have heightened in the Okavango Delta, largely driven by international environmental NGOs. Parallel to this, the Botswana Government has aggressively promoted tourism development. In 1991, the government drafted a Tourism Development Policy, which confirmed the government's interest in direct involvement in the development of Botswana's tourism industry, which had hitherto been largely in the control of the private sector, dominated by expatriates. However, the policy still proposed a free-market approach to tourism development and, in particular, recommended a low-volume, high-value (LvHv) or high-cost, low-density tourism development strategy, as had also been recommended by ecologists and conservationists at the 1976 Symposium on the Future Use of the Okavango Delta (Thompson 1976: 7-8). It was argued that this would minimise the detrimental effects of large numbers of visitors. This strategy has been praised by international conservation organisations, in particular IUCN, as a model for achieving both conservation and development. Aggressive development of the wildlife-based tourism industry has since been the main focus of Botswana's policy for the Okavango Delta, and by the year 2000, tourism was directly contributing about 4.5% to the country's GDP (Mbaiwa 2005). The dynamics around the tourism industry and its role in shaping access to other natural resources are discussed in Chapters 5 and 6.

It should be noted that the Botswana government's interest in conservation and tourism in the Okavango Delta occurs within the historical context of the ruling elite's interests in controlling the most productive sectors of Botswana's economy, whether its cattle, mining or tourism. Development and aggressive investments in the tourism industry by the government can, therefore, be seen as part of a strategy to advance not only national development, but also to promote the interests of the ruling elite. As plans to tap the resources of the Okavango Delta for mining and cattle ranching had failed, tourism and conservation were the logical next steps towards achieving this goal. Through the backing of government policy, therefore, existing cattle and mining interests did not wither away, but shifted towards commercial tourism. Close analysis and observation of the political economy of conservation and tourism in Botswana thus reveals that the interests of the same groups gain the most economic benefits from conservation and tourism. This ruling elite fall into five factions, as identified by Molutsi (1989 cited in Taylor 2005: 45): elected representatives, traditional rulers, the higher echelons of the bureaucracy, the business elite and the leading cattle ranchers. As Taylor (2005: 45) argues: 'Many of these actors can be located in two or more of these ranks, although obviously the nature of class relations, and class identity, have changed over time'.

In the context of the Okavango Delta, it can therefore be argued that the tourism industry has aligned its interests with powerful international discourses and actors in conservation. As the tourism industry was already controlled by a small white expatriate elite, strong alliances have formed over the years between this sector and other more 'traditional' elites, such as elected representatives and senior policy actors, such that the tourism industry greatly influences government policy decisions towards the Okavango Delta.

As will be discussed in Chapter 4, international environmental organisations, notably IUCN, Birdlife International and Conservation International have had a significant presence in the Okavango Delta in the years following its listing as a Ramsar Site. All three organisations, and others, have, through bilateral and multilateral funding (e.g. EU, Sida, DANIDA, USAID, DED and so on) conducted extensive research and implemented and funded numerous projects promoting sustainable management and wise use of the ecosystem. These organisations have also sanctioned and legitimised Botswana's tourism policies and hailed its high-value low-volume tourism strategy as exemplary and compatible with conservation goals. In response to international expectations, Botswana has specifically put in place measures to advance the conservation agenda, in line with international instruments, such as conventions and treaties. The measures include the expansion of areas under protection in line with the Convention on Biological Diversity, as well as promulgating new Acts of Parliament and regulations for the use and management of resources such as fish and wildlife. It can be argued, however, that this enthusiasm to advance the conservation agenda is precisely because it also promotes the government's commercial tourism interests in the Okavango Delta.

3.8 Conclusions

In this chapter I have described the physical characteristics of the Okavango Delta as well as the historical socio-political contestations over its use and management. The chapter has shown how the particular ecology of the Okavango Delta has created binary wilderness visions of the swamps as both savage and needing to be tapped and controlled, as well as a landscape that needs to be protected and celebrated. These visions have shaped the pre-colonial, colonial and post-colonial interactions between the Okavango Delta and different groups, which have changed as technology has improved, new groups have inhabited the area and external factors have influenced decision-making processes.

In the early days of independent Botswana, the Okavango Delta's role in the economy became significantly shaped by the interests of the ruling elite, located far from the resource, to the south of the country. The growing interests in accessing the Okavango waters for mining and cattle-ranching activities in the south saw significant investment in infrastructure developments to build dams and pipelines. The SOIWDP scheme, and opposition to it, revealed the contested nature of the resource and the diverging interests over its use and management. For the first time, these contestations attracted the interest of foreign-based actors, and facilitated an internationalisation of the Okavango Delta. Decision-making about its use and management has since been significantly influenced by international conservation and local tourism and business interests. These interests have become powerful and complementary, as tourism is increasingly being seen as a twin solution to the conservation-development goal in most of southern Africa. International conservation organisations such as Conservation International (CI) and the IUCN have therefore increasingly promoted sustainable tourism, or ecotourism, as compatible with conservation, and as a viable route towards sharing the benefits of conservation with local communities residing close to conservation areas. Those in the tourism industry in the Okavango Delta therefore often evoke the environmental discourses and narratives of international conservation organisations to gain more access and to strengthen their control over the resource.

As tourism developed slowly, and outside the control of the 'traditional' ruling elite (i.e. cattle, business, political and bureaucratic elites), the government has in the recent past struggled to gain control of this sector. Alliances are now observable between ruling elite groups and the emerging tourism elite, which remains largely foreign. The interests of the cattle, political, business and bureaucratic elites are now expanding into the tourism industry, and through policy tools, more of the Okavango Delta resources are being captured away from rural subsistence users, in the same fashion that commercial cattle interests captured grazing land and water resources away from smallholder farmers in the mid-1970s. Chapter 5 discusses the processes through which this has occurred over time. The next chapter discusses how international discourses and narratives around biodiversity loss and its conservation have facilitated an internationalisation of resources such as the Okavango Delta, and how, through restrictive policy prescriptions, the government has responded to these discourses and the accompanying expectations from the international community. I argue that through these *global* mechanisms, the elite in Botswana have been able to capture most of the Okavango Delta resource by aligning their interests to those of powerful international conservation organisations.

Control over the Okavango Delta is, however, complex, as it is also shaped by regional dynamics. As the Delta is part of a shared resource, and, more importantly, located downstream of this shared resource, its internationalisation has been necessary for Botswana as the downstream country. Proposals to abstract some of the Okavango River waters by Namibia, upstream, and similar possible plans from a now-peaceful Angola, prompted Botswana to align its interests in the Okavango with those of powerful international actors by listing the Okavango Delta as a Ramsar Site, thereby strengthening its control over the Delta, although this also meant foregoing Botswana's own development plans. Through international backing, Botswana's interests in conserving the Okavango Delta are therefore secured, alongside its tourism investments.

Okavango Delta tourism is the second most important economic activity for Botswana, and the international conservation goals are still being met. However, this rosy picture has come at a cost, especially for the poor local communities, who have lost considerable control over and access to the resource, as Chapter 5 will show. The Delta's Ramsar status has also been used against the practices of local, subsistence users in the area as a justification for putting in place restrictive policies. The next chapter explores the international debates in detail and shows how the idea of global public goods has been employed by international conservation organisations to gain control over decision-making processes about the use and management of resources such as the Okavango Delta. It also discusses the processes for implementing the Ramsar Convention and the UNCBD in the Okavango Delta, and how these have strengthened conservation and tourism interests in the area.

Chapter 4
International processes for conserving biodiversity: generating global public goods or globalising control?

4.1 Introduction

The 1960s and 1970s, debates about environmental problems were characterised by a domination of what Adams (2001: 45) calls an 'apocalyptic vision of neo-Malthusian crisis', while the 1980s onwards have been dominated by 'a crisis of environmental degradation' (Ibid: 12). As highlighted by the sustainable development and related discourses, the concern is that widespread degradation is a result of unsustainable human activity, notably approaches to economic development, and if this is not halted and reversed, it could lead to unprecedented environmental catastrophe (Forsyth 2003). Taylor and Buttel (1992: 411) argue that: 'in particular there is a very strong stress on rainforest environments and biodiversity in sustainable development doctrine'. Responses to this discourse have resulted in 'the establishment of management systems to give warning of impending environmental problems and to implement effective conservation actions' (Murray 1995: 26). Given their widespread impact on environmental policy and practice at all levels, the exact nature of these management systems, the interests they serve, and the outcomes they produce deserve close scrutiny.

In this chapter I explore the debates around the framing of global environmental problems and solutions related to biodiversity conservation, and examine how these inform and influence environmental policy processes and human-environment interactions in local contexts, particularly in the developing world. The goal is to unpack key global discourses and crisis narratives about biodiversity loss, their role in shaping local discourses of natural resources management, and, in particular, assess the consequences of these for local people's access to and control over wetland resources in the Okavango Delta. To understand these discourses, and how the *global* links with and shapes the *local,* the chapter focuses the discussion on two important global conventions: the 1971 Ramsar Convention on Wetlands of International Importance (or Ramsar Convention), and the 1992 United Nations Convention on Biological Diversity (UNCBD), and investigates how they have shaped environmental discourse and practice in Botswana, particularly regarding the use and management of the Okavango Delta. It also explores the debates around the concept of global public goods and how these debates have driven much of the global discourse and responses to

biodiversity loss, resulting in such instruments as the UNCBD and the creation of institutions like the Global Environment Facility (GEF).

In this chapter, I will show how biodiversity conservation has been promoted as a global public good (framed as non-excludable and non-rivalrous in its use) at the international level, particularly by the UN system, and how this framing has also been shaped by the work of leading international conservation organisations such as Conservation International (CI), World Wide Fund for Nature (WWF), International Union for Conservation of Nature and Natural Resources (IUCN) and others. I will argue, like others, including Brechin et al. (2002) and Lele et al. (2010), that the processes and activities of biodiversity conservation are inherently political; they are as much social as ecological phenomena. Such a perspective calls into question not only the global conceptualisations, framings and explanations of environmental change, and biodiversity in particular, but also the scientific assumptions underpinning the processes and activities involved in its management and conservation, and the political interests and power relations embedded within them. Biodiversity conservation and management are inherently *local* processes with *local* outcomes. Therefore, the outcomes of these processes have to be understood by studying their consequences on local human-environment relations. The analysis of local outcomes of these processes highlights how these global framings shape local discourse and practice around the environment. While many international efforts may indeed help save individual species or protect specific ecosystems, they have also often led to a loss of local control over vital environmental resources.

In the context of Botswana, and the Okavango Delta in particular, these international discourses and instruments (e.g. conventions, projects) have been used by powerful environmental actors to speak against and even demonise the practices of weaker groups, and, in turn, strengthen their own positions and interests. The implementation of international conventions such as the Ramsar Convention and the UNCBD is, therefore, mediated by elite interests, particularly those in tourism and business, to influence the outcomes of international project interventions. In this way, more and more of the Okavango Delta has been allocated to strict conservation and ecotourism, and the main beneficiaries have been the already-advantaged elite groups in conservation, tourism, business and commercial cattle production. By speaking the globalised language of degradation and resource depletion, these actors align their interests with those of international conservation organisations and together influence particular interventions in resource management. Chapter 5 will present new empirical work to show how the implementation of strict livestock and wildlife policies (e.g. fencing policy) and regulations in the Okavango Delta have had negative implications for poorer

subsistence users, while benefiting commercial tourism and cattle-ranching interests in the Okavango Delta and to the south of the Delta respectively. Chapter 6 will build on this analysis to highlight how those in commercial tourism have used degradation narratives to discredit the activities of commercial fishers, the outcome of which has been the promulgation of strict regulations by the Department of Wildlife and National Parks, with support from international organisations. The Ramsar status of the Okavango Delta (i.e. the fact that it is listed as an internationally-important wetland), and therefore the need to conserve it, is often invoked by both policy-makers and private actors to justify pro-conservation and pro-tourism policy outcomes.

The Ramsar Convention was designed to single out 'important' wetland sites around the world and focus conservation efforts on them in order to protect them from human-induced degradation and loss (www.ramsar.org).[42] The UNCBD, along with institutions implementing and financing the activities of the convention (especially the GEF), has taken up the task of 'generating global environmental benefits from biodiversity conservation' through influencing and financing policy changes and programmes in the developing world (www.thegef.org).[43] This couching of the discourse of biodiversity conservation in terms of *production* and *supply* of 'global public goods', to some extent, denotes this as a value-neutral and universally-accepted process, with largely technical outcomes. It also privileges neoliberal approaches to seeing, governing and using nature (see Castree 2008a and 2008b; Duffy and Moore 2010). As Duffy and Moore (2010: 744) argue, these 'new forms of regulation…facilitate private interests…and the expansion of market-based mechanisms to new natural resources…' By attaching special conservation attributes of global importance to local resources, control over such resources is transferred from one set of users to another (Brockington and Scholfield 2010). In the following sections, I examine the origins of this universalising framing and its impact on local landscapes and livelihoods.

4.2 Biodiversity and its conservation: global public goods?

Ribot and Peluso (2003: 196) argue that the 'global commons discourse is used to create universalising categories and naturalise the interventions of powerful agencies, NGOs and other actors around the world in the name of environmental protection'. For example, the United Nations Development Programme (UNDP) claims that its initiatives are 'influencing the manner in which biodiversity is being managed over an area of 375 million hectares worldwide' (UNDP 2010: 5). This is particularly the case in those environments or ecosystems perceived as being of international

[42] Last accessed on September 20, 2010.
[43] Ibid.

significance, such as wetlands and rainforests. International policy frameworks such as agreements, conventions, protocols and treaties have been instrumental in promoting this global approach to governance of the environment. The 'generation of global environmental benefits' (which the GEF seeks to do) (www.thegef.org/Areas_work)[44] requires a particular way of seeing the environment and specific environmental resources and landscapes: as global in significance, threatened by human-induced degradation, and requiring international action for protection. But what exactly does the production of global public goods or the generation of global environmental benefits entail? What are global public goods, and how global are the benefits generated? Who exactly benefits from these goods? Who determines their public-*ness*, and what shape do these processes take?

4.2.1 Defining global public goods (GPGs): a contested concept?

The concept of global public goods (GPGs) is not new, but has in the past been significant in international development discourse (Carbone 2007). It was extensively discussed in a 1999 UNDP publication edited by Inge Kaul, Isabelle Grunberg and Marc A. Stern titled *Global Public Goods: International Cooperation in the 21st Century* (Kaul et al. 1999). The editors posited: 'the ideal public good has two main qualities: its benefits are non-rivalrous in consumption and non-excludable' (Kaul et al. 1999: 3). 'Non-rivalry' means that consumption of the good by one individual does not reduce the availability of the good for consumption by others, while 'non-excludability' suggests that no one can be effectively excluded from using that good. Kaul and her colleagues argue that contemporary development challenges reveal a serious under-provision of GPGs. To explore that proposition, their book examines: (1) whether, and to what extent, the concept of global public goods is useful in describing and analysing global challenges, and (2) if it is useful, whether we can find feasible policy options and strategies that would apply across the board to ensure a more reliable supply of global public goods, from market efficiency to equity, health, environmental sustainability and peace. Without these GPGs, Kaul and her colleagues assert, human security and development will be elusive. Kaul et al. (1999: 453) argue that *'natural global commons,* such as the ozone layer or climate stability, where the policy challenge is sustainability and the collective action problem is one of overuse' pose a 'class 1' challenge (emphasis in the original).

A second UNDP-sponsored book was published in 2003 following criticism of the fuzziness of the concept of global public goods, and to clarify some of the concerns raised, including issues of

[44] Ibid.

financing. The new publication, *Providing Global Public Goods: Managing Globalization,* edited by Inge Kaul, Pedro Conceicao, Katell Le Goulven and Ronald U. Mendoza, proposed a broader definition of GPGs, which integrated three elements, the so-called 'triangle of publicness': (1) *publicness by consumption*, implying universal access to the good by all individuals and groups; (2) *publicness in the distribution of benefits*, implying a fair and meaningful deal for all; and (3) *publicness of decision-making*, implying the involvement of all major actors and stakeholders, including developing countries and non-state actors (Carbone 2007: 183; Kaul et al. 2003) (emphasis added).

According to Long and Woolley (2009:108), the term 'global public goods' is derived from the public economics literature, which has a well-established economic concept of public goods. As they argue, public goods are often contrasted with private goods, and their perception as 'non-rival' and 'non-excludable' are the main principles in their definition. These are the aspects that Kaul et al. (1999; 2003) define as strong qualities of 'public-ness'. The reviewed definition is as follows: 'global public goods are public goods with benefits – or costs that extend across countries and regions, across rich and poor population groups, and even across generations' (Kaul et al. 2003: 3). However, Kaul et al. (2003: 23) also concede that whether goods become *de facto* public goods often depends on technology and on policy choice, which is an inherently social and political process. Carbone (2007: 183) argues, therefore, that this means there cannot be a fixed list of such goods, because 'some goods always have the property of global publicness, while others have over time changed from being local or national to being global in terms of costs and benefits'. For this reason, Kaul and Mendoza (2003) advance the definition of GPGs to include 'goods that are in the public domain, available for all to consume and affecting all' (Kaul et al. 2003: 10). They contend that the public domain 'includes the natural commons and the human-made environment in which all people live and encounter outside their private spheres, where a wide range of things occur, including potentially excludable public 'bads' such as crime, noise, violence, pollution and computer viruses' (Ibid). If that is the case, it can also be argued that public goods are excludable, and it is this *excludability* aspect that makes the governance of some goods in the public domain (e.g. the environment) contested.

It is their tendency to shift from the public domain to the private that makes public goods difficult to identify and define with certainty. In fact, as argued by Alan Prest (1970), quoted in Long and Woolley (2009: 109), 'goods exhibiting both of the relevant characteristics – non-rivalrousness in consumption and non-excludability – are likely to be few in number'. Kaul et al. (2003: 15) also

acknowledge this. They note that: 'some of the newer public goods are intangible. Environmental sustainability is more a condition than a concrete thing. Its provision is thus difficult to monitor and verify, and so especially prone to running off course' (p.15). A distinction is thus often made between pure and impure public goods, where impure public goods are said to fall into two categories: those that are non-rivalrous in consumption but excludable, referred to as 'club goods'; and those that are mostly non-excludable but rivalrous in consumption, referred to as 'common pool resources' (Kaul et al. 1999: 5). Public goods are significant because they are said to lead to market failures; this is the main disincentive for their provision, and therefore a justification for governments' role in addressing that failure (Long and Woolley 2009: 109). Kaul et al. (1999: 6) highlight problems of 'free-riding' and the 'prisoner's dilemma' to be at the centre of the market failure problem. 'Non-excludability means that the supplier of a public good runs the risk that people will use the good without paying (free-riding) and suggests that public goods will tend to be over-exploited or under-produced, there being little rationale for private producers to produce something whose price will tend to zero' (Long and Woolley 2009: 109). For global public goods, this then calls into question the issue of who provides or supplies these goods, since there is no international or global equivalent to a national government. For Kaul et al. (1999; 2003) and other proponents of the GPG approach, this makes it all the more important to examine the role of non-state actors in providing global public goods (Kaul et al. 1999: 15). Kaul et al. (Ibid) actually go further to define a GPG as a good that is 'global in its publicness'. Based on these definitions, is it appropriate, then, to define biodiversity and its conservation as a global public good? But is it equally appropriate to ask whether GPGs really extend to all countries, people and generations in the sense that Kaul et al. and others posit? Can contested resources such as wetlands really be termed 'global public goods' when their 'publicness' (in the sense of decision-making, consumption and the distribution of benefits) is not actually global? What are the implications of these inadequacies in the definition of GPGs for the governance of natural resources, and for something even more abstract, like 'biodiversity'?

From the perspective of access to water, Mehta (2003: 556) argues that attention should be paid to two issues: (1) diverging perceptions of the nature of the good and how it should be accessed and delivered; and (2) the power of different actors in determining its distribution. As she notes, 'neglecting these issues can impede local, regional, and international efforts to enhance the equitable distribution of public goods, a point often overlooked in the rather idealised literature on global public goods' (Ibid).

The definitional aspects of GPGs have raised much debate within both the academic and international development communities. Coussy (2005) posits that the neoclassical definition of public goods is based on extremely precise assumptions, thus running the risk of using the definition outside of its legitimate domain. Coussy (2005: 183-184) argues that the refusal to imbue neoclassical theory with value judgements is what renders the theory of public goods an example of pure theory, and ensures its 'scientific' stamp of approval. She maintains, however, that although the GPG concept is acknowledged within neoclassical economic theory as coherent, its 'scientificness' is questionable:

> This neoclassical, 'value-free' understanding of public goods lies at the extreme of theories which justify state intervention on the basis of a desire to redistribute revenue and property. Furthermore, its understanding of actors' behaviour and its value-free content is far removed from current debates over the state, and its definition held neither by the layman nor held by the majority of the social sciences. It refers neither to the goods owned, produced or consumed by public preferences, nor to common goods belonging to all but appropriated by none. As such, this hiatus between the popular understanding of the term 'public good' and its meaning in the pure neoclassical sense can be interpreted as an attempt to distance itself from the current debates. Yet, due to its separation, it is impossible to engage in common-sense dialogue. Therefore, the proliferation of the use of the canonical notion for rhetorical purposes constantly generates misunderstandings (Coussy 2005: 183-184).

Along the same lines, Carbone (2007: 185) argues that 'the urgency to demonstrate the importance of GPGs has transformed a rigorous and restrictive concept into a slogan mixture of pure economic rationality and wishful thinking'. In his view, the popularity of GPGs has been achieved by fusing together four diverse theories into one concept: (1) theory of public goods, to differentiate public and private goods; (2) theory of market failure, to introduce the issue of positive and negative externalities; (3) theory of basic needs, to justify the notion of free access to resources; and (4) elements of political economy, to define groups, collective preferences and collective goods. The risk, he argues, 'is to create a *catch-all* to which people can attach anything they want' (p.185) (emphasis in the original). For Long and Woolley (2009), the concept is incoherent. As they argue, 'whereas private goods are, in theory and practice, both rival and excludable, the same is not true of the superficially opposite concept, public goods; although public goods are theoretically both non-rival and non-excludable, in practice many goods are either non-rival but excludable, or non-excludable but rival' (p.114). They contend that the concept should only be understood as a rhetorical device, not an analytical tool: 'Researchers and policymakers should eschew the rhetorical attractiveness of the ill-defined concept and examine the political economy of exclusion, rivalry and public provision as they pertain to international cooperation and global issues' (p.108). This is the aim of this chapter in many respects: going beyond the global character to explore what

this means for access and control over these resources, which are *local.* In general, though, the term global public goods has been accepted, particularly in the international community (the United Nations in particular) as a useful tool for addressing global concerns. As a UN official notes in a foreword to the Kaul et al. (2003) publication: 'the concept of global public goods is still new and somewhat unfamiliar. But it has huge implications not just for development but also for multilateral approaches to a wide range of pressing global problems' (Brown 2003: xvi). The editors of the book argue that the concept can be applied as an analytical framework for various global challenges.

The problem with the UNDP conception of GPGs (Kaul et al. 1999; 2003) is that it confines itself to global- or country-level analysis of 'publicness', and therefore underplays the extent to which local decision-making, consumption and distribution of the said 'public' goods may actually be an exclusive and discriminatory process, even at the global level. They do, however, note that 'publicness in decision-making and distribution of net benefits does not form part of the definition of a public good' (Kaul et al. 2003: 24). They therefore propose measuring the degree of publicness across the three dimensions of consumption, decision-making and distribution of net benefits. In their view, this could be used to draw attention to the discrepancy between the full publicness in consumption that typically marks global public goods, and the limited publicness of decision-making through which some goods are selected and placed in the global public domain. However, it could be argued that, even at the global or international level, 'publicness' is not global in the sense that not all views are taken on board in the decision-making/negotiation processes for the production and management of GPGs. Some have more say than others, and the costs and benefits of these processes are distributed unequally among the 'global' community, whether at regional level (north/south), state level or indeed all levels of analysis. But what have been the implications of the GPG approach on management of the environment?

4.2.2 Implications of the GPG for biodiversity conservation

Perrings and Gadgil (2003) argue that biodiversity conservation is a public good whose benefits are available across spatio-temporal scales, and that the *maintenance of the global gene pool* is itself a *global public good* (p.532) (emphasis added). In their view, the *activity* and *outcome* of maintaining global biodiversity are global public goods whose benefits are 'largely non-exclusive and non-rival' (p.532). The problem, they posit, is that current strategies for conserving it often focus on its 'global benefits', ignoring its local benefits (p.535).

Sandler (2003) offers a different view, arguing that in its contested and abstract sense, biodiversity can be termed an impure public good: the benefits are partly rival, partly excludable, or both, as most public goods are. Moreover, as Perrings and Gadgil (2003: 542) point out, the local benefits of biodiversity conservation have a quasi-private nature, as some of its benefits may be captured privately. It is this capturing of the benefits from environmental resources that ought to be critically explored if the environmental governance debate at the international level is to be relevant for local users. However, this part of the debate is increasingly left to the policy discretion of national government agencies, which, as this chapter and Chapter 6 will show, are often the ones that capture the benefits of environmental exploitation and conservation, while the conservation aspect is emphasised at the international level.

According to Coussy (2005: 184-185), two distinct discourses have emerged from the debate on GPGs, resulting from its neoclassical definition. The first seeks to legitimate the actions and mandates of institutions such as government ministries, development agencies and international organisations within the definitional limits of the neoclassical conception of public goods. The second emanates from individuals and organisations who believe that their values, which lie beyond the theoretical and methodological confines of the neoclassical understanding, will gain legitimacy if they are put forward under the terms of GPG theory. Long and Woolley (2009) argue that the global public goods concept generally provides a new justification for the existence and activities of the UN and the international policy community: 'It frames a question and even suggests an answer with regard to issues in international public policy that the UN or one of its agencies is looking for – a rationale for UN and/or international NGO involvement, coordination, control or direction in a host of public policy domains' (p.118). But to what extent do these global solutions address the real issues of biodiversity loss and the unequal distribution of costs and benefits from its exploitation and conservation, as well as decision-making about its use and management? Before exploring these questions, it is essential to acknowledge the contested nature of the concept of biodiversity itself, and of its conservation thus far. This will give insight into how at the international level the loss of biodiversity has been presented as a 'global ecological crisis' that warrants global action and interventions in local environments by organisations like the GEF, IUCN, WWF, CI and many others.

4.3 The global framings, discourses and practice of biodiversity conservation

The Global Environment Facility (GEF) website states that: 'Biodiversity is under heavy threat, and reducing and preventing further biodiversity loss are considered among the most critical challenges to humankind'. It goes on to note: 'Of all the problems the world faces in managing "global goods," only the loss of biodiversity is irreversible' (http://www.thegef.org/gef/biodiversity).[45] Sala et al. (2000) observe that the changes to global biodiversity are so large that this is now considered an important change in its own right. But what exactly is biodiversity, and why is it threatened?

The concept of biodiversity is, in some ways, an odd one, as Guyer and Richards (1996: 1) note: 'Biodiversity is quantitative without necessarily being quantifiable'. 'It is the variety and variability among living organisms and the ecological complexes in which they occur' (McNeely 1988, cited in Banham 1993: 1). More specifically, biodiversity refers to the number of species, their genetic diversity and the variety of environments in which they are found (Guyer and Richards 1996). Analysis is generally made at three different levels: genetic, species and ecosystem (or community) (Perrings 2000). Brown (1998) notes how this multi-dimensional character of biodiversity is also reflected in the variety of its uses and values – anthropocentric and non-anthropocentric, intrinsic and instrumentalist – associated with aspects of biological diversity; these will be 'accrued and perceived differently by different sets of people and at different scales' (p.75). Guyer and Richards (1996: 2) argue that 'the concept of biodiversity is, thus, intimately bound up with theories and information about ecozones and habitat', many of which, biologists contend, are yet to be discovered. The main concern with regard to biodiversity has primarily to do with changes in these ecozones and habitats, as well as their diversity, which, according to McNeely (1992), is resulting in the disappearance of genetic diversity, species and ecosystems. According to Guyer and Richards (1996: 1), neo-Malthusian ideas of demography often inform the grouping of habitats by biologists into two classes: 'those that are modified (and generally simplified) by human involvement, and those that are still in some pristine state, untouched by human activity'. Species richness is usually used as a measure of biodiversity (Brown 1998: 75). Brown (Ibid) argues that this results in habitats such as tropical forests in general appearing to contain greater diversity than cultivated landscapes, where genetic diversity may be high, but species diversity relatively low. Excluding human activity is therefore generally regarded as the key to saving biodiversity, as increases in human population are seen to pose the greatest threat to species diversity (Guyer and Richards 1996). This conventional approach to biodiversity conservation, according to Brown (1998), neither understands

[45] http://www.thegef.org/gef/biodiversity, last accessed on January 29 2011.

the complexity of diversity at different scales nor appreciates historic use, and also prejudices the role of people in maintaining biological diversity.

According to Rockstrom et al. (2009: 479): 'Currently, the global extinction rate far exceeds the rate of speciation, and consequently, loss of species is the primary driver of changes in global biodiversity'. They argue that climate change will make the situation worse: 'Up to 30% of mammals, birds and amphibians will be threatened with extinction this century' (p.474). There is consensus among conservation biologists that reducing the area of habitat reduces not only the populations of each species, but also reduces the number of species that the habitats can hold (Myers et al. 2000; Brooks et al. 2001). Forsyth (2003) argues, however, that recent research has shown that this direct relationship is overstated, that large numbers of species survive in remaining clumps of forest, that historic extinctions were of greater significance and that other ecosystems, such as the savannah, also have high levels of biodiversity. Though McNeely (1992) presents a biodiversity crisis narrative, he acknowledges the scientific uncertainties regarding biodiversity loss and extinction. He notes that 'the precise or even approximate dimensions of the loss of biodiversity are elusive' (p.6).

Simplistic neo-Malthusian explanations of biodiversity loss remain strong. Related analysis leads to solutions that separate people and biodiversity, as the latter needs to be protected from overuse and misuse by the former (Brown 1998). The designation of protected areas and the promulgation of strict legislation and regulations to conserve habitats and species is the primary way in which this is done. This 'fortress conservation' (Adams 2001: 272) approach has therefore been adopted by governments in the form of national parks, game reserves and other forms of conservation territories (Brockington 2002; Neumann 2004).

Conservation discourse and practice have evolved over the years from a focus on single species, expanding to strategies that involve the participation of people (Orlove and Brush 1996). Jeanrenaud (2002) has reviewed how these changes have shaped conservation practice. She observes that over the last three decades, the discourse has shifted from 'people are the threat' to 'people can't be ignored/people are a resource' to 'people-centred' approaches that embrace the 'participation' of people in conservation and question the basis of conventional approaches by asking 'conservation for whom?' As Jeanrenaud argues, early crisis narratives, which dominated conservation thinking up to the 1970s, were rooted in imperial concerns about the environmental impacts of colonial expansion, but were reinvigorated by the so-called 'doomsday syndrome' that was characteristic of the environmentalism of the 1960s and 1970s (p.9). The 'people can't be

ignored/people are a resource' narrative emerged in the 1980s, and the idea that conservation and development are mutually interdependent was articulated in landmark publications, such as *World Conservation Strategy* and *Caring for the Earth* by IUCN, United Nations Environment Programme (UNEP) and WWF in 1981 and 1991 respectively.

Since the 1990s, counter-narratives have been advanced by new groups who have promoted alternative people-environment perspectives. According to Jeanrenaud (2002), these have been influenced by wider intellectual currents associated with the post-modern influence on the natural and social sciences and the growing prominence of Southern scholars and perspectives in the debate. The most recent arguments have linked current conservation practice to capitalism (e.g. Castree 2008a and 2008b; Brockington and Duffy 2010; Igoe et al. 2010; MacDonald, 2010; Brockington and Scholfield 2010; Corson 2010).[46] As Brockington and Duffy (2010: 470) argue, 'the current alliances between capitalism and conservation…are characterised by an aggressive faith in market solutions to environmental problems'. Drawing on this recent work, the next section briefly discusses this new approach to biodiversity conservation.

4.4 Changing discourses of conservation: from fortress to neoliberal conservation

Over time, various scholars have criticised the exclusionary approach to conservation. These scholars have been considered ethnocentric, because they favoured Western ideas of nature; elitist, because they overlooked resource management by indigenous inhabitants; ecologically outmoded, because the early models are ones that 'freeze-framed' the ecological status quo; and self-defeating, because outside pressures eventually impinge on protected areas and generate conflict (Jeanrenaud 2002: 12). As Lele et al. (2010: 95) have argued: 'The impacts of the protected area approach can be of three different kinds: complete physical displacement; economic displacement through restrictions on resource-use (e.g., on collection of firewood and other non-timber forest products, grazing, and water use); and cultural displacement through restricted access to locations of cultural and symbolic value'. Despite this, there are still proponents of this approach, and this, according to Adams and Hutton (2007), reflects the long-standing conviction that the preservation of biodiversity is an overwhelming moral imperative.

As noted, changes have been observed in conservation discourse and practice to promote more people-oriented perspectives (Jeanrenaud 2002; Lele et al. 2010). Jeanrenaud (2002: 44), however,

[46] Volume 42 No. 3 of *Antipode* journal features 12 articles on the convergence of capitalism and conservation.

poses a pertinent question: 'Do changing conservation discourses and practices represent socially progressive trends, or are they new ways of legitimising global environmental and development intervention, making new policies and practices more refined forms of technocratic control over people and nature?'

As the Protected Areas approach came under criticism, the international conservation movement adopted various 'conservation with development' approaches, promoting the idea that conservation and development are mutually interdependent (Jeanrenaud 2002: 12), and triggering experiments with alternative approaches. The Integrated Conservation-Development Projects (ICDPs) of the 1980s attempted to link conservation within protected areas to social and economic development outside the protected area (Newmark and Hough 2000). They promoted, among other things, shared decision-making authority, employment, revenue sharing and limited use of wild animals and plants as incentives for the community's support for conservation (Ibid). In the last decade, payment-based schemes that seek to marry the efficiency of the market with conservation goals have arisen (Lele et al. 2010: 95). The conservation-with-sustainable-use approach was the basis for a substantial flow of funds into conservation work in the 1990s, including ICDPs (Adams 2001; Adams and Hutton 2007) and to some extent CBNRM. These win-win narratives assumed that if solutions were good for local people, they must be good for the environment, and vice versa. Lele et al. (2010: 95) argue that as a result, communities were 'involved' more as recipients of concessions and development assistance than as part of conservation activities, making the early ICDPs an extension of conservation by exclusion. Jeanrenaud (2002: 16) argues that this 'people are a resource for conservation' narrative continues to underpin the authority of orthodox scientific claims in defining problems and solutions, and informs how participation is framed in conservation practice. As discussed in detail in Chapter 2, CBNRM approaches have also been criticised for their over-simplification of the concept of 'community' and for failing to recognise inherent conflict and difference in social groups. As Chapter 5 will show, CBNRM is also plagued by problems of income distribution and conflicts about how to use resources within heterogeneous communities with different resource-use goals. Conservation, and in particular CBRNM, has in the last two decades moved towards a commodification of nature, particularly through tourism (Igoe et al. 2010; also Castree 2003; 2008a). This is certainly the case in the Okavango Delta where more and more land has been allocated from communal use to 'eco'tourism, disguised as conservation. Communities have been increasingly encouraged, and sometimes forced, to transfer the use of their

(community-managed concessions) land to private tourism companies to maximise profit from its use.[47]

Corson (2010) and Brockington and Duffy (2010) argue that links between capitalism and conservation, although not new, are significantly reshaping conservation practice, and actively remaking economies, landscapes and livelihoods. As Brockington and Duffy (2010: 470) explain: 'Rich elites have been promoting conservation of particular species for their pleasure and enjoyment long before capitalism ever began; capitalist elites adopted these same privileges'. So what's new? The difference, according to Corson (2010: 577) is that 'collaboration among public and non-profit sectors have both reflected and contributed to a move within global environmentalism from an anti-capitalist stance in the 1960s and 1970s to its twenty-first century embrace of the market'. This has been driven in recent decades by 'the emergence of a powerful global elite in conservation, the strong position of a few NGOs within this and the opportunities this offers for transnational capitalism to affect conservation' (Holmes 2010: 626). The privatisation of nature, the growth of big international conservation NGOS (BINGOs) and their increasing corporate links and the contemporary move away from engaging local actors (Brockington and Duffy 2010; Corson 2010; MacDonald 2010; Sachedina 2010;)[48] are some of the characteristics of this new capitalist form of environmental governance.

Adams and Hutton (2007) highlight the growing involvement of the private sector in the tenure and management of PAs as one consequence of the increasing importance of neoliberal approaches to conservation. As argued by Corson (2010: 579):

> The international biodiversity agenda has created symbolic and material spaces for global capital expansion by, first, supplying a critical stamp of environmental stewardship for corporate and political leaders, and second, carving out new physical territories for capitalist accumulation through both the physical demarcation and enclosure of common lands as protected areas, but also through the growing capitalist enterprise that is forming around the concept of biodiversity conservation.[49]

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[47] On June 28, 2010 Botswana's weekly *Mmegi* newspaper (Vol. 11, No. 24) carried an article entitled: 'Community Trusts Robbed By Tour Operators' which summarised the finding of a report by the Botswana Government's Auditor General stating, among other things, that the contractual agreements between tour companies and communities in the Okavango Delta were 'a mere barter system' whereby often communities had no say in how their land was used by the tour company.

[48] MacDonald (2010) writes in the article 'The Devil is in the (Bio)diversity: Private Sector 'Engagement' and the Restructuring of Biodiversity Conservation' about the recent links between IUCN and Shell that resulted in Friends of the Earth International withdrawing its membership from IUCN, citing 'concern about the corporate partnership between Shell and the IUCN' (p.513).

[49] For instance, the fast-food company McDonalds is greening its image and capitalising on widespread environmental concerns through the creation of new products and commodities such as McDonalds-Europe's Endangered Species Happy Meal Campaign. McDonalds' partnership with Conservation International (CI) to make donations to protect rainforest ecosystems, thus helping to combat climate change, is another example (see Igoe, Neves and Brockington, 2010).

Spierenburg et al. (2008) cite the case of the establishment of the Great Limpopo Transfrontier Conservation Area, the largest trans-frontier conservation area (TFCA) in the world, spanning parts of South Africa, Mozambique and Zimbabwe. In this case, a considerable amount of local control over the use and management of natural resources and the benefits from them has been transferred to the private sector in the area of tourism, and at the end of the negotiations the TFCA actually became a Transfrontier Conservation *Park*. In this context (i.e. park, as opposed to conservation area), there is limited community use (e.g. crop rotation is no longer allowed and access to emergency pasture no longer available), and instead tourism development is encouraged, especially in the Mozambican part of the park, leading to the relocation of many communities to outside the park in order to continue farming and cultivating land. As Adams and Hutton (2007) and Brockington (2004) note, these practices raise the complex issues of rights, ownership, governance, legitimacy and justice.

Nature-based tourism has been promoted as a key policy agenda by which many states in the South can diversify their economies and produce environmentally sustainable development (Duffy and Moore 2010: 745). In the case of Botswana, tourism has definitely been a niche through which the government has successfully diversified its economic portfolio from almost total dependence on diamond mining. As noted in Chapter 3, since the early 2000s, tourism has been the second most important foreign exchange earner for Botswana, and the Okavango Delta plays a key role in its growth (Mbaiwa 2005; Magole and Magole 2009). It is often regarded as a harmless activity, and assumed to successfully balance conservation with economic growth and community empowerment through community-based tourism enterprises. However, often this is not the case. Literature on 'enclave tourism' (Ceballos-Lascurain 1996, cited in Mbaiwa 2005) best highlights some of the problems associated with tourism, especially in the tropics, and perhaps explains the reason why tourism is defended by some. Ceballos-Lascurain (1996) likens enclave tourism to internal colonialism: it is characterised by foreign ownership and targets foreign clientele, and is therefore characterised by high prices. Moreover, there is often significant capital flight from the host countries, and the foreign currency generated is transferred to the home countries of the foreign investors (c.f. Freitag 1994; Mbaiwa 2005; 2008). As vanderPost (2006: 297) observes in the case of the Okavango Delta: 'Resentment from local populations is worsened when contrasts in earnings coincide with skin colour or when many locals remain unemployed'. The socio-economic impacts of tourism and how they shape human-environment interactions in the Okavango Delta are discussed in detail in Chapters 5 and 6.

Corson (2010: 580) argues: 'In biodiversity conservation specifically, hegemonic practice now values nature based on its potential market price. The enclosure, commoditisation and privatisation of nature have resulted in an emphasis not just on ecotourism, but also on mechanisms like direct payments and public-private partnerships to promote conservation, and management of parks by private entities'. The role of conservation NGOs in these processes is particularly significant because, as Brockington and Scholfield (2010: 554) argue, 'their reach is global and they can be particularly influential in poorer parts of the world where government expenditure on conservation is slight and NGO expenditure proportionally larger'. They have therefore been the principal means through which funding is channelled from bilateral and multilateral donors. In preparation for the second part of this chapter, which presents cases relating to the implementation of the Ramsar Convention and the UNCB by the Ramsar Secretariat and the GEF respectively, the next section looks briefly at the discourses and practices of international conservation organisations in general.

4.5 Actors, ideologies and narratives in global conservation

The work of big international non-governmental organisations (BINGOs), such as World Wide Fund for Nature (WWF), Birdlife International, Conservation International (CI) and the World Conservation Union (IUCN), and that of the scientists affiliated with these organisations who research and document species losses and extinctions has led the debate, not only on the extent to which biodiversity is being lost or becoming extinct, but also in suggestion action regarding what solutions are appropriate for the perceived problems. Estimates to determine global extinctions are based on models, or on best guesses (McNeely 1992), yet the findings are presented as factual and unquestionable. Much of this work is highly significant in driving the conservation strategies of organisations and governments around the world. The IUCN Red List of Threatened Species, which 'identifies and documents particular species at risk of extinction'(www.iucnredlist.org),[50] purports to be the 'most comprehensive approach for evaluating the conservation status of plant and animal species which has now become a world standard and plays an increasingly prominent role in guiding conservation activities of governments, NGOs and scientific institutions' (Ibid). As Brockington and Scholfield (2010: 567) argue, there are a plethora of such measures that variously prioritise threat, wilderness and biodiversity, and through them 'the conservation movement collectively prioritises 79% of the world's land surface for action'. The World Wildlife Fund (WWF) groups landscapes (terrestrial, marine and freshwater) into eco-regions and labels them according to whether they are 'intact', 'stable' or 'vulnerable'. Through its Conservation Science

[50] Last accessed on 29 January 2011,

Programme, the WWF has identified the 'Global 200', 'the most biologically distinct terrestrial, freshwater and marine eco-regions of the planet', in which the WWF pursues 'eco-region conservation': 'a unique, broad-scale approach to develop and implement a comprehensive strategy that conserves the species, habitats, and ecological processes of the eco-region' (www.worldwildlife.org).[51]

Other organisations such as Birdlife International and CI have their own prioritisation models for species and sites. Birdlife International has Important Bird Areas (IBAs) and Endemic Bird Areas (EBAs) or the category of 'threatened' (e.g. Globally Threatened Birds), and CI is famous for its 'hotspots'; the African Wildlife Foundation (AWF) has 'heartlands' (Sachedina 2010) and the World Conservation Society (WCS) the 'last of the wild' (Brockington and Scholfield 2010). Brockington and Scholfield (2010: 567) argue, however, that these are best seen as fundraising tools, as opposed to devices that make it easier to decide where to work. Although they have separate mechanisms for classifying landscapes and species, these organisations often work together and use each other's findings and strategies to focus conservation activities and decision-making, and to provide a convincing justification for their activities (e.g. Myers et al. 2000; Brooks et al. 2002). Igoe et al. (2010) discuss the case of 'Starbucks Conservation Coffee' and other new material commodities 'which produce realities in which it appears feasible to mitigate social and environmental impacts of environmentally destructive corporations' (p.498).

Conservation International, founded in 1987, adopted Norman Myers' 1988 concept of 'biodiversity hotspots' as its institutional blueprint in 1989, and its work has been driven by this concept ever since. Biodiversity hotspots refer to 'the richest and most threatened reservoirs of plant and animal life on earth' (www.biodiversityhotspots.org).[52] To qualify as a hotspot, a region must meet two criteria: (1) it must contain at least 1500 species of vascular plants (>0.5% of the world's total) as endemics; and (2) it has to have lost at least 70% of its original habitat (Myers et al. 2000). According to Myers and his colleagues, there are 25 hotspots in the world, and 16 of these are in the tropics, 'which largely means developing countries where threats are greatest and conservation resources are scarcest' (p.855). They contend that using the hotspot approach, with its tight targeting of conservation efforts, 'will help protect half the world's species in hotspots alone, and make the prospect of mass extinction far less daunting and much more manageable' (Ibid). As outlined on its website, CI's biodiversity conservation outcomes are defined along three scales: (1)

[51] Ibid.
[52] Last accessed on 29 January 2011.

Threatened Species (striving for 'Extinctions Avoided' outcomes); (2) Key Biodiversity Areas (where the targets are 'Areas Protected' outcomes); and (3) Landscapes (where the aim is for 'Corridors Consolidated' outcomes).

These arguments and actions are not neutral or apolitical. The singling out of species, sites or zones places significant focus on certain flora, fauna or areas, the human activities ongoing in such areas, and therefore the people living in them. As many of the so-called 'hotspots' and 'heartlands' are in the developing world, where the majority of the poor live, and depend directly on accessing biological resources for their livelihoods; as Forsyth (2003) cautions, the blame for environmental degradation may hastily be placed on such people's activities. Furthermore, singling out certain resources or ecosystems over others may miss other areas that are also important, such as dryland savannah ecosystems, which may contain high levels of biodiversity, but are not 'attractive' like swamps and rainforests. Wetlands (e.g. swamps, marshlands and bogs) have received this kind of attention as environmental resources, and are considered to be the most biologically diverse of all ecosystems. McNeely (1992), however, notes that this attention is often due to their ecological complexity, not necessarily to their high species diversity or endemism. Wetlands provide many ecosystem services, including provisioning services (e.g. food, timber, water and fibre), regulating services (e.g. regulation of climate, waste, floods, disease and water quality), cultural services (e.g. aesthetic enjoyment, recreation and spiritual fulfilment) and supporting services (e.g. soil formation, nutrient cycling and photosynthesis) that human communities depend on for their welfare (Millennium Ecosystem Assessment 2005: 2). Dependence on, or use of provisioning services by humans has therefore often been identified as one of the most significant threats to wetland sustainability. Fishing and agriculture are believed to pose a significant threat to the sustainability of these ecosystems. They are seldom perceived as resilient systems; instead, they are associated with degradation and collapse, and perceived as fragile and threatened by humans. Wetland 'loss', often referring to the conversion of wetland ecosystems for other (human) uses such as agriculture or hydropower, is a recurring theme in the environmental debate in general and in wetland management discourse in particular (c.f. McNeely 1992; Millennium Ecosystem Assessment 2005).

Solutions for the issues and problems referred to above exist at all levels of use and management. For the purposes of this study, this next section focuses on international policy and management solutions, and their interpretation at the national level, using the Ramsar Convention and the UNCBD as examples. The UNCBD is a United Nations framework convention that 'sets the tone, establishes certain principles and even enunciates certain commitments' for global biodiversity

conservation (Le Prestre 2002: 20). The Ramsar Convention, on the other hand, is a site-specific intergovernmental treaty 'that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources' (www.ramsar.org).[53] The Ramsar Convention states that '…wetlands as ecosystems…are extremely important for biodiversity conservation' (Ramsar 2007b: 1).

According to Seto and Fragkias (2007), the focus on wetlands is primarily because they are said to be among the most biologically productive ecosystems in the world. For this reason, the Ramsar Convention was designed to single out 'important' wetland sites around the world and focus conservation efforts on them. The Okavango Delta is a prominent example of such a site. The UNCBD, on the other hand, along with institutions implementing and financing the activities of the convention (especially the GEF), has couched the discourse of biodiversity conservation in terms of production and provision of 'global environmental benefits'. The next section looks at these two conventions in the context of Botswana and how their implementation occurs in the Okavango Delta.

4.6 Conserving wetlands, conserving biodiversity: the Ramsar Convention and the UNCBD

The Ramsar Convention is, so far, the only intergovernmental treaty that deals with a particular ecosystem: wetlands (Bryant 2002). It is one of the oldest non-United Nations conventions and has been operational since 1975 (signed in 1971). The Convention on Biological Diversity (UNCBD), on the other hand, is a recent (1992) UN convention that seeks to incorporate all biodiversity-related issues into a single convention, an aspect that some have perceived as its strength but also its weakness. The two therefore are seen to complement each other. These two conventions evolved differently, in different contexts and therefore have different operational mechanisms that are important to understand.

4.6.1 The 1971 Ramsar Convention on Wetlands of International Importance

The Ramsar Convention was negotiated throughout the 1960s by countries (e.g. the UK, France, and Iran) and NGOs (including the IUCN, Wetlands International and Birdlife International) that were concerned about the increasing loss and degradation of wetlands as habitats for migratory birds (Bryant 2002). The official name of the treaty, signed in 1971 in the city of Ramsar, Iran, is

[53] Last accessed on 29 January 2011.

'The Convention on Wetlands of International Importance Especially as Waterfowl Habitat', and this reflects the original emphasis on the conservation of wetlands primarily as habitats for waterbirds. Over the years, however, the Ramsar Secretariat and contracting parties (or member countries) have made the decision to make the Convention relevant to other areas of wetland conservation, and particularly to recognise wetlands as important ecosystems for biodiversity conservation and the wellbeing of human communities (Ramsar Convention Secretariat 2007b). Whether the Convention's initial focus of conservation of wetlands for birds has been sufficiently replaced by its broadening to other issues, especially the recognition of humans as part of wetland ecosystems, is debatable. As Jeanrenaud (2002: 44) asks: 'Do these changes in discourse reflect a change in the practices, or do they serve to legitimise interventions in even more spaces and exert more control over people and nature?'

The main factor that differentiates the Ramsar Convention from other environmental treaties is its flagship 'List of Wetlands of International Importance', or 'Ramsar List' for short. Through the Convention, member countries are expected to designate sites within their political boundaries of international significance in terms of ecology, botany, zoology, limnology or hydrology, and also to formulate and implement their planning so as to promote the conservation of the wetlands and, as far as possible, the *wise-use* of wetlands within their territory (Ramsar Convention Secretariat 2007a: 5). For the Ramsar Convention Secretariat, the two concepts of 'wise use' and 'site designation' go hand in hand and 'are compatible and mutually reinforcing' (Ibid). As the *Ramsar Handbook for Wise Use of Wetlands* (Ramsar Convention Secretariat 2007a: 5) states, 'the act of designating a wetland under the Convention is an appropriate first step along a conservation and sustainable-use pathway'. As the keystone of the Ramsar Convention, the chief objective is to 'develop and maintain an international network of wetlands which are important for the conservation of biological diversity…' (www.ramsar.org).[54]

The Ramsar Convention defines wetlands as 'areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salty, including areas of marine water the depth of which at low tide does not exceed six meters' (Ramsar Convention Secretariat 1997: 1). The coverage of the Convention therefore extends to a large area and a wide variety of habitat types. As of January 2011, the Ramsar Convention had 160 Contracting Parties and 1,918 Ramsar Sites, covering a total surface area of almost 200 million

[54] Last accessed 29 January 2011.

hectares (187,044,576).[55] Over 70% of the designated area is located in Africa and Latin America. This signifies the extent to which Ramsar Convention principles influence environmental policy in these areas. Not all wetlands can be listed as Ramsar Sites, however: 'the criteria for designation are based on the uniqueness of the wetland type and its role in supporting threatened ecological communities and biological diversity' (Seto and Fragkias 2007: 489). Those wetlands with high concentrations of species dependent on such a wetland, and their status as unique habitats for particular 'threatened' species would fit the criteria. There are currently eight criteria adopted in 1999 by the Conference of Parties, and waterfowl remains an important focus of identifying wetlands as internationally important. The Convention is open to ratification indefinitely, and any country may become party by depositing an instrument of ratification with the United Nations Education, Scientific and Cultural Organisation (UNESCO). On acceding to the convention, each country must list at least one wetland site and, in particular, develop a wetland management plan to guide its use and conservation.

The IUCN hosts the Ramsar Secretariat Bureau at its headquarters in Gland, Switzerland. The IUCN's mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature, and to ensure that any use of natural resources is equitable and ecologically sustainable (www.iucn.org).[56] The Convention on Wetlands and the IUCN share similar conservation goals, and the positive cooperation between the two institutions to date has been expressed through the recognition of the IUCN as a Ramsar International Organisation Partner (confirmed through Conference of Parties (CoP) 7 Resolution) (www.ramsar.org).[57] The two institutions signed a Memorandum of Cooperation in 2003, agreeing to develop a collaborative programme to increase current consultation and cooperation between their respective technical and administrative networks (Ibid). The IUCN was instrumental in lobbying Botswana to list the Okavango Delta as a Ramsar Site after the controversial SOIWDP and dredging in the early 1990s. The process is reported to have been influenced by His Royal Highness Prince Phillip Duke of Edinburgh, President of WWF, who in 1996 visited the Okavango Delta and, in that same year, 'suggested' in a letter to the Office of the President that Botswana join the Ramsar Convention and list the Okavango Delta as a Ramsar Site (Former Director of IUCN Botswana Country Office,

[55] As at 1 March 2011.
[56] Last accessed 29 January 2011.
[57] Ibid.

interview, 2011).[58] As a senior officer within the Ministry of Environment, Wildlife and Tourism noted:

> *After the SOIWDP controversy, and with a bit of external prodding and lobbying by the IUCN Botswana country representative, Botswana was somewhat ready. Botswana was already a member of IUCN by then so IUCN was rightly placed to do this. The Office of the President realised the benefit to be had from listing and leverage with regard to OKACOM activities as the conflicts on water with upstream countries was a significant worry. With funding from IUCN's Water and Nature Initiative, a Ramsar mission was sent to Botswana in 1995/96 to lobby the government* (Senior Officer in MEWT, interview, 8 April 2009).

As noted in Chapter 3, Botswana signed the Ramsar Convention on 9 December 1996, and it came into force on 9 April 1997. The current Okavango Delta Ramsar Site surface area is 5,537,400 hectares, recalculated down from 6,684,000 hectares. At the time of listing, it was the world's largest Ramsar Site.[59] The designated area borders Namibia, and includes the Okavango River, the entire Okavango Delta, Lake Ngami and parts of the Kwando and Linyanti River systems that fall along the western boundary of the Chobe National Park' (Swatuk 2003). See Figure 7 for the Ramsar Site boundaries.

[58] Skype interview, 4 February 2011.

[59] This has been used by both the Ramsar Secretariat and the Botswana Government as a marketing tool for the Okavango Delta. The present area was recalculated downwards in 2006 (www.ramsar.org). The initial coordinates included parts of Namibia and raised minor disputes between the two countries (Dr Eliot Taylor, former IUCN Chief Technical Advisor to the Okavango Delta Management Plan, interview, 15 June 2009). The Okavango Delta is now the fourth largest Ramsar Site. The listing of new sites around the world happens on an almost weekly basis.

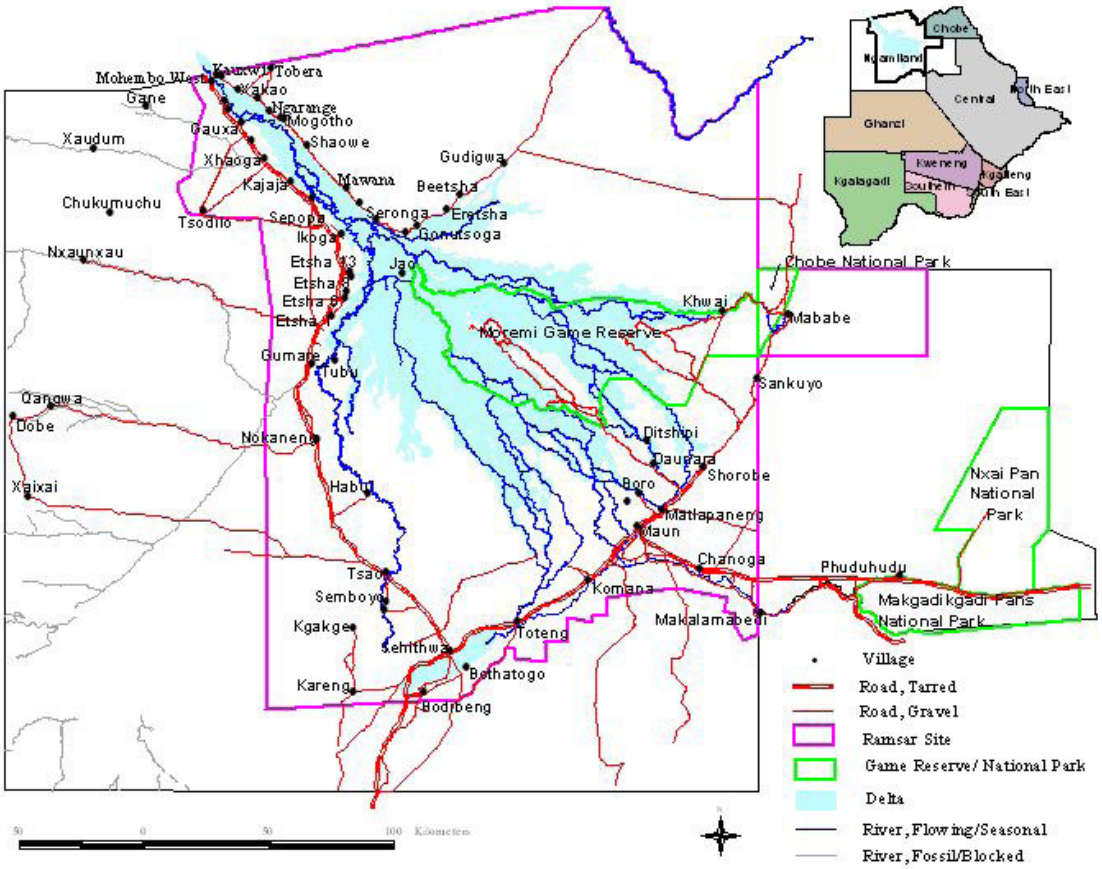

Figure 7: Map of the Okavango Delta showing the Ramsar Site. Courtesy of the Department of Environmental Affairs, Gaborone

4.6.1.1 Implementation of the Ramsar Convention: The Okavango Delta Management Plan (ODMP)

Other than listing a wetland as a Ramsar Site at the time of acceding to the Convention, contracting Parties (countries) that join the Ramsar Convention make three other commitments: (1) to include wetland conservation planning in their national policies, especially planning that encourages implementation of the 'wise use' concept; (2) to establish nature reserves inside wetlands, whether or not they are included in the Ramsar List; and (3) to provide training in wetlands research, management and wardening, and to consult with other contracting parties about implementing the Convention, especially with regard to shared wetlands, water systems and species (Ramsar Convention Secretariat 2007c).

With regard to commitment (1) above, Ramsar Parties are not only expected to put in place wetland policies as important priorities, but to also review all national laws and institutions in order to

ensure their compatibility with the Ramsar obligations of conservation and wise use. National Wetlands Committees should also be formed to 'provide focus for national implementation of the Convention' (Bowman 2003: 61). Ramsar Site management plans are considered the most important exercise in the process of managing listed sites. The plans are based on the Ramsar Convention's planning guidelines and are expected to outline how the Convention principles, especially those of 'wise use', will be integrated into planning and management of the designated wetland sites. The Ramsar Convention's idea of 'wise use' is defined as 'the maintenance of their [wetland] ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development' (Ramsar Convention Secretariat 2007a: 5). The Ramsar Secretariat and IUCN also encourage governments to develop wetland policies. Botswana does not yet have an officially-approved wetlands policy, although a 'draft' document has been in existence since 2000 and informs practice. Sources within the Ministry of Environment, Wildlife and Tourism (MEWT) indicate that some senior government officials are not supportive of a wetlands policy, and the Minister has been reluctant to present the draft policy to Cabinet for approval. The draft policy was developed by the National Conservation Strategy Coordinating Agency (NCSA), a product of the IUCN's work in Botswana towards developing a national conservation strategy in the 1980s, as discussed in Chapter 3. The *Draft Wetlands Policy* (2000) also echoes the discourse of the IUCN and the Ramsar Convention, and is critical of traditional government planning principles that are top-down and exclude local communities. It also emphasises the conservation of wetlands, and criticises major development plans in wetlands, like that the government sought to carry out in the early 1990s with the SOIWDP project. The NCSA would later be charged with the responsibility of developing the management plan for the Ramsar Site. The lack of buy-in for the wetlands policy at the senior government and cabinet level could be a direct result of its links with IUCN conservation activities in the Okavango Delta. The NCSA would later be integrated into the MEWT as the Department of Environmental Affairs (DEA), charged with coordinating the integration of environmental management into government planning. The DEA remains a weak department, however, and is plagued by past issues and controversies and conflict between the IUCN and the Botswana Government over the SOIWDP project. As a senior officer within the DEA noted:

> *The environmental agenda is problematic and difficult to sell to government and cabinet. Planners in charge of disbursing development funds are economists who believe in bricks and mortar; they prefer to allocate money towards infrastructure* (Interview, 12 March 2009).

The Okavango Delta Management Plan (ODMP) project was initiated in 2003 by the NSCA (now DEA), and completed in 2006. The full management plan was published in February 2008 (Government of Botswana 2008a). Its overall goal is to 'integrate resource management for the Okavango Delta that will ensure its long-term conservation and sustainable use of its natural resources' (NCSA 2002, quoted in Jansen and Madzwamuse 2003; Government of Botswana 2008a: xvi). The management plan was intended to serve as an integrated, dynamic management plan, which provides the overarching framework and contextual guidelines for individual area and sector plans (Jansen and Madzwamuse 2003).

The IUCN played a significant role in getting the project started, and managed and funded two components of Policy, Planning and Strategy, and, along with the Swedish International Development Cooperation Agency (Sida) and the Government of Botswana, funded the Communication, Dialogue and Networking component. The Okavango Delta was selected for IUCN Water and Nature Initiative (WANI) funding as a 'governance demonstration site' for the IUCN: it was 'being used to learn on the governance issues pertaining to how to do management planning' (Taylor 2005: 5). Through participation in the project, the IUCN got the opportunity to facilitate the adoption of the ecosystem approach (also a Ramsar planning approach) into the Okavango Delta's wetland management planning process. For these purposes the IUCN contributed US$1 million towards the project and provided technical backstopping through the provision of a Chief Technical Advisor (CTA). According to the CTA, the IUCN also funded pilot projects (practical tests of management methods) aimed at addressing specific existing management conflict areas (Taylor 2005).[60]

The ODMP project was made up of ten additional components, funded by different donors in line with their interests in environmental management. The Danish International Development Agency (Danida) contributed US$1.5 million towards activities on Research and Data Management, Participatory Planning and Hydrology and Water Resources, coordinated by the Okavango Research Institute (formerly the Harry Oppenheimer Okavango Research Centre (HOORC)) and the Department of Water Affairs (DWA). Sida provided US$720,000 towards Communication, Dialogue and Networking, co-funded by the Government of Botswana and the IUCN. The German Development Service (DED) provided a participatory planner for the project at a cost of US$190,000. The Government of Botswana funded the rest of the components on Fisheries

[60] Annual Analytical and Exit Report for the IUCN Water and Nature Initiative (WANI), January-December 2004. The report was written and submitted to the IUCN in 31 March 2005 by Dr Eliot Taylor, the IUCN CTA for the ODMP project.

Management, Sustainable Tourism, Vegetation Resources Management, Settlement and Development Planning, Land Use and Land Management and Waste Management, at a cost of US$3.5 million.

It is important to recall that the ODMP is a direct result of the signing of the Ramsar Convention, which Botswana signed not necessarily out of concern to list the Okavango Delta and conserve its resource, but partly to protect its sovereign stake and interests in the wider Okavango River Basin. As discussed in Chapter 3, Botswana itself has had to abandon its own river basin development plans, and had been internationally embarrassed by both the Greenpeace campaign against those plans and by the IUCN review of the project, which resulted in its termination. Due to these events and issues, Botswana's relationship with the IUCN had become strained, and would remain so until the closure of the IUCN Botswana Programme Office in 2007. This tense relationship negatively affected the implementation of the ODMP project, which the IUCN was coordinating. As noted by the former project CTA (Taylor 2005: 3), and reiterated in an interview on June 15 2009:

> *The project faced many delays and had no buy-in at the senior level due to the poor working relationship and lack of trust between the Government of Botswana and the IUCN.*

These same sentiments were echoed by two senior officials within the DEA, one of whom noted in an interview:

> *The ODMP still needs endorsement at Cabinet level: we are having trouble selling it* (Interview, 20 March 2009).

When asked about the status of implementation of international environmental agreements in Botswana, the other DEA officer noted:

> *Implementation of the Ramsar Convention is struggling; the Wetlands Policy has been in draft for ten years* (Interview, 8 April 2009).

Implementation of the ODMP was to begin shortly after finalising the project, and funding for it was to be allocated through the National Development Plan 10 (NDP 10), a five-year plan covering the period 2008/09 to 2014/15. Instead, nothing changed, and the different project components reverted back to the responsible departments with no dedicated funding for the ODMP recommendations. As another DEA senior officer noted:

> *There has been too much funding for planning but none for implementation. The ODMP is an integrated plan that now has to be implemented by sectoral departments, this is problematic. It reverses the gains made from the integrated planning process* (Interview, 12 March 2009).

The Botswana Parliament and Cabinet have yet to approve the ODMP as the overarching planning tool for the district, and the DEA has received little support for the ODMP from its parent

Ministry.[61] Many within the DEA conclude that the government has no commitment to the management plan for the Okavango Delta, but developed it simply to fulfil its Ramsar Convention obligations. As the main funder for the project, the government ensured that its interests in the Okavango Delta were protected during the planning process. All land use and resource management components of the project were funded by the government and coordinated by government agencies. These include fisheries management, tourism, livestock management and water resources management. However, despite the lack of buy-in at the political centre, the ODMP had positive results at the local (Okavango Delta) level (Taylor 2005; Magole and DeMotts 2007; Magole 2008). Awareness-raising about integrated planning and management was achieved to some extent at the district planning level. In addition, for the first time in the history of planning in Botswana, local communities were actively engaged in a systematic manner in the development of the management plan, and dialogue was facilitated between local resource-users and government institutions.[62] For example, the ODMP stakeholder consultation process was in stark contrast to the SOWIDP process, which was largely planned in secret. The consultation process revealed publicly for the first time the skewed nature of access to and control over Okavango Delta resources, and particularly highlighted the increasing conflicts among the different user-groups (Kgomotso 2005). It was also the first time that local resource-users' views were 'listened to' by government planning agencies, although in many ways they were not 'heard', as they continue to struggle with the same issues as before the ODMP (Magole and Kgomotso 2010). The integration of these issues into national planning for the Okavango Delta has been a major challenge for the Department of Environmental Affairs as the official environmental coordinator, and with regard to solving many of the problems in the Ramsar Site, not much has changed. As will be discussed in Chapters 5 and 6, the main recommendations made by the ODMP were for local community concerns to be addressed through, among other things, the recognition of traditional user-rights in many parts of the Okavango Delta, including within the protected areas. Instead, as this thesis will show, there is an emerging pattern of increasing marginalisation through official policy processes and management practices. Despite the lack of political support for the ODMP at the highest level, the DEA is in the process of facilitating the listing of another Ramsar Site, the Makgadikgadi Salt Pans to the south-east of the Okavango Delta, which are linked to the Delta during years of high flood.

Some implementation of the ODMP recommendations has been taken over by another project, the Biokavango Project, started towards the end of the ODMP process 'to ensure it fully accommodates

[61] DEA Senior Environment Officer, interview, 20 March 2009.
[62] Dr Eliot Taylor, former IUCN CTA to the ODMP, interview, Oxford, UK, 15 June 2009.

biodiversity management objectives' (UNDP 2004: 1). The Biokavango Project – Building Local Capacity for Conservation and Sustainable Use of Biodiversity in the Okavango Delta – is a GEF/UNDP project with main funding from the Government of Botswana. The GEF funds the project from its Biodiversity Focal Area (incremental costs), and the UNDP is in charge of implementation, with the University of Botswana's Okavango Research Institute (ORI) as the project's coordination office. The most significant changes from this project have so far been observed in the fisheries sector. The Biokavango Project activities and their outcomes for use and management of fisheries resources are discussed in detail in Chapter 6.

Much of the lack of acceptance of ODMP recommendations results from the fact that they depart from the conventional processes through which land-use planning is carried out in Botswana, and in some ways threaten the interests of those who control most of Okavango Delta resources, in particular the Department of Wildlife and National Parks (DWNP), as well as private tourism interests. The ODMP particularly emphasises the need for *local* planning principles, for the empowerment of local communities and for resource-users to participate in the land-use planning processes. The integrated planning process, therefore, challenges the power and control that central government institutions currently have over planning and implementation at the local level, and would place this power within local authorities, which are currently politically disempowered and dependent on central government for resources. By funding, and therefore maintaining control over most of the ODMP planning activities and processes, government agencies therefore continued with their traditional ways of doing things, and when the ODMP process was completed, things went back to 'normal'.

In this chapter I argue, however, that the role of the ODMP should not be underestimated, as powerful groups position themselves such that they benefit from its partial implementation. In the same manner that international organisations invoke the global public goods discourse to justify their interventions and globalise their control in local spaces, so do government agencies and some private groups invoke the ODMP and the Ramsar status of the Okavango Delta to advance their interests in the management and use of the wetland ecosystem. A case in point is the decision by the land authority (Land Board)[63] to freeze allocation of land for agricultural purposes along the river and on the floodplains. As will be discussed in Chapter 5, this rule did not apply to land allocated

[63] Although the Land Board is a local authority, it is significantly controlled by the Department of Lands, a central government institution.

for tourism purposes. Essentially, the ODMP and the Delta's Ramsar status were used to justify restrictions on land use imposed on subsistence farmers, while allocating prime land sites for commercial tourism. An argument can be made, therefore, that even though the ODMP has not received much buy-in in high bureaucratic circles, it is used as a tool to justify elite capture of resources in the Okavango Delta. This calls into question the extent to which the implementation of the Ramsar Convention as an international instrument is monitored by organisations such as the Ramsar Convention Secretariat and supporting institutions such as the IUCN. These limitations are discussed below.

4.6.1.2 Monitoring of the implementation of the Ramsar Convention by the Ramsar Secretariat

The Ramsar Secretariat was not directly involved in the development of the ODMP, except by influencing its thinking through its technical planning tools (Government of Botswana 2008a), and through the involvement of the IUCN as a planning partner. In general, the Ramsar Convention lacks a comprehensive monitoring system through which implementation of the Convention can be effectively measured. Emphasis is placed on quantitative indicators, such as the number of sites listed by any one country, the number of countries with management plans in place or the number of countries with a wetland policy. In addition to the emphasis that has, in practice, been placed on the listing process, the Convention focuses narrowly on land and water use within wetlands rather than on the broader catchments of which they are an intimate part (Farrier and Tucker 2000). The Ramsar Convention Secretariat is, however, starting to engage with transboundary issues, and provides technical advice to its members where necessary, though this support was weak during the listing of the Okavango Delta. For instance, the Ramsar Secretariat did not oblige Botswana to discuss the listing of the Delta with upstream countries, including Namibia, which is also a Ramsar member. These countries were therefore caught unawares by Botswana's decisions to list the Delta. As noted in Chapter 2, the content of policies and management plans, and the processes followed in designing these policies remain far from the scrutiny of the Ramsar Secretariat, owing in part to aspects of sovereignty over national policies, but also due to the limited capacity (i.e. lack of funds) of the Ramsar Secretariat[64] to actively engage with governments at the national level. The Convention's focus on simple quantitative indicators to monitor implementation and progress may therefore operate to the detriment of qualitative aspects (Bowman 2003). The processes for managing the listed wetlands are open to interpretation by each country, resulting, in most cases, in partial implementation of the Convention. As discussed in Chapter 3, Botswana's attraction to the

[64] Interview with Eliot Taylor, former IUCN CTA to the ODMP, 15 June 2009.

Ramsar Convention was not entirely due to its conservation approaches or management principles, but was to advance Botswana's interests in the shared river basin and position it strongly *vis-à-vis* its upstream neighbours, and to progress tourism goals. As a senior government official within MEWT told me in an interview:

> *Listing the Delta is secondary; it was a convenient way to get international recognition and in order to implement the national desire. The national benefit for the country is that the Delta is a key resource for generating income through the tourism sector* (Interview, 20 March 2009).

As also highlighted by the Ramsar Convention Secretariat (2007b: 2), listing wetlands 'brings increased publicity and prestige for the wetlands designated for the List of Wetlands of International Importance, and hence increased possibility of support for conservation and wise use measures'. In essence, while gaining this publicity and prestige, countries can more or less carry out 'business as usual', as long as it is not in radical contradiction of the Convention, while in addition benefiting from international support. As has been shown in Chapter 3, Botswana has international backing to restrict the use of the Okavango River system by upstream countries, while enjoying unlimited support to pursue its own commercial tourism goals downstream, which are often praised for being low-impact on the environment. However, the international community (the Ramsar Convention Secretariat in particular) lacks the capacity to influence the kind of tourism strategy that Botswana pursues. Instead, Botswana's policies are praised for their success in promoting conservation while pursuing economic growth and empowering communities through CBNRM programmes. The real political economy of tourism and conservation are rarely questioned.

Ramsar 'status' has primarily been used by powerful actors to control the interactions of other resource-users with the environment. The suggestion by the Minister, urging smallholder farmers to move their cattle away from the river because it is a Ramsar Site, is a case in point.[65] The Convention is therefore open to manipulation and appropriation by powerful groups to access more of the resource and to restrict the use of the resource by others. This partial, almost contradictory role that the Ramsar Convention, and indeed most international instruments play, may indeed open up space for unjust practices by government agencies and locally powerful groups to strengthen their control over resources in the name of conservation, to the disadvantage of poorer subsistence users. Current tourism policies in the Okavango Delta are also starting to raise concerns that the ecological sustainability of the wetland may be jeopardised by Botswana's tourism policies and the activities of the tourism industry in the area (Darkoh and Mbaiwa 2006; Mbaiwa 2008).

[65] See opening quote in Chapter 1.

Despite the fact that it is significantly shaping local and regional practices in the context of the Okavango Basin, the Ramsar Convention is not a regulatory regime and has no punitive sanctions for violations of or defaulting upon treaty commitments. It does constitute a solemn treaty and is therefore binding in that sense (Ramsar Convention Secretariat 2007). As stated in the Ramsar Information Paper No.2 (2007b: 3):

> Failure to live up to the Convention's expectation could lead to political and diplomatic discomfort in high-profile international fora or the media, and would prevent any Party concerned from getting the most, more generally, out of what would otherwise be a robust and coherent system of checks and balances and mutual support frameworks. Failure to meet the treaty's commitments may also impact upon success in other ways, for example, in efforts to secure international funding for wetland conservation.

However, the Secretariat has no formal mechanisms for conducting independent evaluations of the implementation of the Convention. As a member of staff at the Secretariat noted during an informal discussion,[66] the Secretariat relies on third parties to know exactly what is going on in Ramsar Sites; otherwise they accept the members' thrice-yearly reports to the Conference of Parties (CoP) as truth. If the Secretariat receives information about issues of concern in a particular site, it may send a team to investigate, but this rarely happens, and when it does it is usually to investigate the ecological status of sites, not socio-political issues. Ecological degradation in Ramsar Sites after listing may result in de-listing (or being placed under the Montreux Record)[67] as per Article 3(2) of the Convention, until the wetland in question is rehabilitated to Ramsar status standards. The Ramsar Convention has undergone significant metamorphosis, especially through its recent (post-2005 Millennium Ecosystem Assessment) adoption of the wise use concept and the ecosystem approach, as well as the expansion of its influence to other wetlands that are not listed. The Ramsar Convention has also aligned itself with the more well-known UNCBD. At the fifth meeting of the Conference of Contracting Parties in Kushiro, Japan, in 1996, the Ramsar parties approved Resolution 5.1 which notes: 'It will be natural for the Ramsar to work closely with the Convention on Biological Diversity and continue to play the leading role in the conservation of wetlands biodiversity' (Farrier and Tucker 2000: 26). In 2008, Resolution X10 of the 10th meeting of the Conference of Parties held in Korea agreed that the Ramsar Secretariat will 'collaborate with relevant international conventions and agencies, including UNFCCC, CBD, UNCCD, IPCC, UNEP, UNDP, FAO and World Bank, in the development of a multi-institutional coordinated programme of work to investigate the potential contribution of wetland ecosystems to climate change mitigation

[66] During my visit to the Ramsar Secretariat Bureau in Gland, Switzerland in June 2010.
[67] The Montreux Record is a list of wetlands whose ecological character has changed, is changing or is expected to change due to technological developments. These wetlands are placed on this record as a way of embarrassing or shaming the host countries until they rehabilitate such areas; they are then re-listed on the Ramsar List.

and adaptation, in particular for reducing vulnerability and increasing resilience to climate change'.[68]

The next section discusses UNCBD implementation in Botswana and the GEF biodiversity work in the Okavango Delta.

4.6.2 The UN Convention on Biological Diversity and the GEF biodiversity work

The United Nations Convention on Biological Diversity (UNCBD) and the Global Environment Facility are two important instruments for the implementation of biodiversity conservation at the international level.

4.6.2.1 The Convention on Biological Diversity (UNCBD)

The UNCBD was signed in Rio de Janeiro, Brazil, in 1992 at the United Nations Conference on Environment and Development (UNCED) also known as the Rio Earth Summit. The UNCBD was the first global agreement on the conservation and sustainable use of biological diversity, and covers all ecosystems, species and genetic resources (Secretariat of the Convention on Biological Diversity 2001). According to Le Prestre (2002), the UNCBD was initially conceived as a means of putting some order onto the disparate agreements regarding the protection of wildlife, but it quickly moved beyond this narrow concern to incorporate an ecosystem approach to conservation. It addresses issues that range from ecosystem protection to the exploitation of genetic resources, from conservation to justice, from commerce to scientific knowledge, from the allocation of rights to the imposition of responsibilities. The Convention establishes three main goals: (1) the conservation of biological diversity; (2) the sustainable use of its components; and (3) the fair and equitable sharing of the benefits from the use of genetic resources. It is also legally-binding (Secretariat of the Convention on Biological Diversity 2001). The elaboration and practical implementation of its goals have been varied, and have raised controversy and debate about the exact nature of the UNCBD, to which I turn below.

Although it is a UN convention, the UNCBD can be traced as far back as 1981 to the work of the IUCN, particularly its Commission on Environmental Law (CEL), which initiated a more comprehensive way of viewing genetic resource management (Le Prestre 2002). The IUCN-CEL 'called for the extension of protected-area principles to land outside protected areas and proposed a world treaty to protect wild genetic resources for the future' (Ibid: 10). Unlike the Ramsar

[68] Available at http://www.ramsar.org/pdf/res/key_res_x_10_e.pdf, last accessed on 1 March 2011.

Convention, however, and indeed other conservation or biodiversity-related Multilateral Environmental Agreements (MEAs) that target either sites or species (e.g. CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora), the final UNCBD treaty did not require the designation of sites as conservation areas, nor did it highlight any specific species as requiring more conservation attention, though conservation remains an important focus of the treaty. Article 8(a) requires all contracting parties as far and as appropriately as possible to 'establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity', and Article 8(c) requires the parties to 'develop, where necessary, guidelines for the selection, establishment and management of protected areas...', alongside other *in situ* and *ex situ* conservation measures (Convention on Biological Diversity 2001).

The UNCBD's comprehensive approach (conservation, use and benefit sharing) to addressing biodiversity conservation has been highlighted as one of its success factors, although this has also been cited as making the agreement vulnerable to overextension, and, as a result, weak (Le Prestre 2002; Williams 2005). The third objective of the convention on Access and Benefit Sharing (ABS) has its roots in the FAO's International Undertaking on Plant Genetic Resources (IUPGR), dating back to 1983, the objective of which was 'to ensure the plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated or made available for plant breeding or scientific purposes' (Kate and Laird 2002: 3). Kate and Laird argue that during the negotiations of the UNCBD, developing countries put forward concerns about the costs of conservation that the treaty was raising, and also sought to correct the historical inequities in the trade of genetic resources (Williams 2005). It was therefore clear that developing countries would only support the initiative for a biodiversity treaty if it were founded on national sovereignty over genetic resources, and promoted a more equitable sharing of benefits arising from the commercial use of genetic resources (Kate and Laird 2002; Williams 2005).

The UNCBD, therefore, had overwhelming support from both developing and developed countries due to making itself relevant to both groups. Article 20, Paragraph 2 of the Convention states: 'The developed country Parties shall provide new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs to them of implementing measures which fulfil the obligations of this Convention…' The Convention recognises as one of its overriding principles the sovereign rights of states to exploit their own biological resources pursuant to their own environmental policies. Obligations laid down in the final Convention apply unequally

between developed and developing countries, in recognition of the differences between the two. Cited in Barrett (1994: 112), Paragraph 4 of Article 20 reads:

> The extent to which developing countries will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing country Parties.

The convention can be seen as an instrument to promote the equitable exchange, on mutually agreed terms, of access to genetic resources and associated knowledge in return for finance, technology and the opportunity to participate in research (Kate and Laird 2002). For this reason, Guruswamy (1999: 79) criticises the UNCBD for rejecting 'hard' environmental obligations that are legally binding for non-legal exhortations, and instead highly qualifying 'soft' commitments.[69] He argues that the UNCBD's implementation problems stem from three fundamental constitutive weaknesses:

> First, the CBD rejects the concept of sustainable development by prioritising economic growth over environmental protection, and allows international resources earmarked for the protection of biodiversity to be expended on economic growth that could destroy biodiversity. Second, it denies state responsibility for damage to the global commons. Finally, it repudiates the idea that the plant, animals and genetic resources of the world (our biodiversity) are the common heritage of humankind and that it is the responsibility of the community of nations to protect this heritage (Ibid: 79-80).

Guruswamy argues that by stating that 'economic and social development and poverty eradication are the first and overriding priorities of developing countries', and by empowering developing countries to subjectively determine what constitutes development, the UNCBD diminishes environmental protection and 'disowns sustainable development, the very *grundnorm* of the Earth Summit' (p.80) (emphasis in the original). He argues: 'biological diversity is a public good that is of critical importance to all humanity, and ought to be protected by the entire international community (p.81). 'In the absence of an explicit commitment to protect biodiversity, any resources transferred under the Convention could be used by a small minority of zealous developing countries to advance their own concept of economic and social development' (p.80).

Boisvert and Caron (2002: 152) also criticise the UNCBD for adopting a market-driven approach and being inspired by the theory of property rights. They argue that it also 'draws a certain defiance toward collective action and communal institutions from Garret Hardin's 'tragedy of the commons' fable, and is eventually reinforced by the liberal theses of resource economics and by the pervasive ideology of globalisation' (Ibid). As they argue, the UNCBD leads to the promotion of exclusive

[69] Director of the National Energy-Environment Law and Policy Institute at University of Tulsa College of Law, USA.

and transferable rights to genetic resources, species and, if possible, ecosystems, in order to allow for the creation of markets guaranteeing their efficient allocation. However, unlike earlier approaches of environmental law that strove toward preservation and aimed at preventing exploitation, the UNCBD combines conservation with the use of biological resources for commercial purposes. Boisvert and Caron argue:

> Exploitation is not only restored to favour and no longer considered a threat to the environment, it is the very heart of the institutional device designed by the Convention. Therefore, the latter can be considered as a framework setting the terms for sustainable use of biological resources by genetic engineering, which is turned into financial means and a lever for conservation policies. The invitation to adopt intellectual property rights is in line with this perspective. It implies the acceptance of the privatisation process and of the extension of market regulation to all life forms (Ibid: 152-153).

This thesis argues that in the developing world, significant progress can be observed with regard to the implementation of the Convention's first objective, *biodiversity conservation*, but that little has been done to promote the *sustainable utilisation* and particularly the *access and benefit sharing* objectives. As a UNEP study of four African countries concludes, 'The third objective of the Convention...has proven to be difficult to achieve through implementation at national and international levels' (UNEP 2008: 6). In 2000, the Conference of Parties to the UNCBD realised that the ABS regime was lacking effective implementation, and responded by establishing the Ad Hoc Open-Ended Working Group on Access and Benefit-Sharing to develop guidelines to assist with the implementation of the ABS provisions of the Convention (Ranjan 2009). Two years later, the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation were adopted. The Bonn Guidelines are intended to guide, on a voluntary basis, both users and providers of genetic resources on mechanisms of the ABS regime (Ranjan 2009). They establish standards for the participation of stakeholders, principles of a prior informed consent (PIC) system and minimal requirements for mutually agreed terms (MAT), and provide examples of monetary and non-monetary benefits (Ibid).

This aspect of the UNCBD has been criticised for making communities and their knowledge about local resources vulnerable to exploitation by powerful groups such as multinational pharmaceutical companies. Boisvert and Caron (2002) contend that the promotion of intellectual property rights to genetic resources and the development of bio-prospecting on a contractual basis are not perceived by their opponents as economically efficient solutions, but rather as evolutions that favour the interests of the most powerful, whose resources and innovations have attributes that make them patentable. These actors are transnational firms and states that have the means to profit from

biotechnology. Dhar and Anuradha (2004) also argue that, while recognising the rights of indigenous and local communities, the UNCBD talks of prior informed consent in terms of the prior informed consent of the Contracting Party providing biological and genetic resources. They claim that this is perhaps an inevitable outcome of an international convention aimed at *inter se* rights and obligations of state parties, rather than the rights of individuals or communities within their territory. 'Communal rights, even if they are affirmed by the Convention on Biological Diversity, do not enjoy recognition and protection comparable with that of intellectual property rights; unlike the rights protected by the rules of the World Trade Organisation, their transgression cannot entail retaliation' (Boisvert and Caron 2002: 158).

Many countries in southern Africa have not yet adopted comprehensive Access and Benefit Sharing (ABS) strategies, and many lack the capacity to translate this into policy (UNEP 2008). The application of rights analogous to intellectual property rights to the knowledge and resources of the South seems difficult (Brush 1993). As argued by Le Prestre (2002: 323), 'insufficient attention has been paid to potential conflicts between the goals of protecting ecosystems, species and genetic diversity, of benefit-sharing, and of sustainable use, which are too often assumed to be complementary'. Boisvert and Caron (2002) conclude that the debates on biological diversity involve varied actors whose economic, political, and bargaining powers are quite different: multinationals, states, research institutes, United Nations agencies, NGOs, indigenous people and rural communities of the South: 'These debates take the form of a North-South conflict in which the situations of the protagonists are clearly asymmetrical' (p. 158). At the December 2010 Conference of Parties held in Nagoya, Japan, 'the importance of ensuring access to and benefit-sharing of genetic resources was emphasized: many delegates urged all Parties to cooperate to ensure the adoption of an ABS protocol and an expectation was expressed that the protocol would improve the regulation of bio-piracy and compliance' (Secretariat to the Convention on Biological Diversity 2010: 78).[70] It remains to be seen how much success will be realised in implementing the ABS protocol.

4.6.2.2 The GEF and 'biodiversity mainstreaming' projects

The GEF was created in 1991 as a US$1 billion pilot programme within the World Bank to address global environmental problems and promote environmental sustainable development (www.thegef.org/gef/whatisgef).[71] It was conceived as a means to provide 'new and additional grant and concessional funding to meet the *agreed* incremental costs to achieve *agreed* global

[70] Available at http://www.cbd.int/doc/notifications/2010/ntf-2010-223-cop10-en.pdf, last accessed on 2 March 2011.
[71] Last accessed 30 January 2011.

environmental benefits' (GEF 2004 cited in Mee at al. 2008: 800) (emphasis in the original). 'Agreed' here signifies conformity to policies set by the GEF Council, which represents 177 states (Ibid). At the 1992 Rio Earth Summit, the GEF was appointed as the financial mechanism or instrument of the UNCBD (biodiversity) the UNFCCC (climate change), the UNCCD (desertification) and the Stockholm Convention on Persistent Organic Pollutants (POPs). The UNCBD and UNFCCC subsequently called for the restructuring of the GEF to take into account these developments (GEF 2008: 11), and two additional focal areas were added to the GEF mandate: international waters and ozone layer depletion. The GEF is so far the only multi-donor funding mechanism specifically designed to address key global environmental issues (Mee et al. 2008).

The UNCBD provides guidance under which the GEF assists developing countries in meeting their obligations under the Convention. The GEF works with three main implementing agencies: UNDP, UNEP and the World Bank (GEF 2008). Additional to these, the GEF also funds projects prepared by all regional development banks, the United Nations Food and Agriculture Organisation (FAO), the United Nations Industrial Development Organisation (UNIDO) and the International Fund for Agricultural Development (IFAD) (www.thegef.org/gef/gef_structure).[72]

Biodiversity-related work comprises 36% of the GEF's resources, and is the largest portfolio of the GEF (Ibid). Through its biodiversity strategy, which adopts the UNCBD's ecosystem approach, the GEF's main goal in the Biodiversity Focal Area is the conservation and sustainable use of biodiversity, and the maintenance of ecosystem goods and services. To achieve this goal, the current GEF biodiversity strategy encompasses five objectives, as outlined in the Biodiversity Strategy for GEF-5 (undated):[73]:

1. Improve the sustainability of protected area systems;
2. Mainstream biodiversity conservation and sustainable use of production landscapes/seascapes and sectors;
3. Build capacity to implement the Cartagena Protocol on Biosafety;
4. Build capacity on access to genetic resources and benefit-sharing; and
5. Integrate CBD obligations into national planning processes through enabling activities.

[72] Ibid.
[73] Accessed at http://www.thegef.org/gef/sites/thegef.org/files/documents/document/GEF-5_Bio_strategy.pdf on 30 January 2011.

To achieve goal 1, the GEF's focus is on protected areas as *cornerstones of conservation*, supporting individual and institutional capacity to manage these and protect ecosystems and species as a pathway towards achieving long-term sustainability (http://www.thegef.org/gef/BIO-strategy).[74] The focus of goal 2 is to 'reduce negative impacts that productive sectors exert on biodiversity, particularly outside protected areas while highlighting the contribution of biodiversity to economic development and human wellbeing' (Ibid). The GEF seeks to achieve this by targeting biodiversity-dependent production sectors and those said to have large ecological footprints, including fisheries, agriculture, forestry, tourism and the major extractive industries of oil, gas and mining. Botswana's UNDP/GEF Biokavango project (discussed below) is designed to address this goal. Goal 3 focuses on building capacity for the implementation of the Cartagena Protocol on Biosafety in order to protect biodiversity from the potential risks of exposure to living modern organisms resulting from biotechnology. Goal 4 focuses on the CBD's third objective of Access and Benefit Sharing. As noted above, the GEF posits that the implementation of ABS has been slowed by the lack of capacity of most key stakeholders. The GEF's work here, therefore, is to improve the capacity of the different stakeholders, including indigenous and local communities and the scientific community, to establish measures that promote concrete access and benefit sharing agreements recognising the core ABS principles of prior informed consent (PIC) and mutually agreed terms (MAT), including fair and equitable sharing of benefits. Goal 5 involves helping governments meet their obligations under the CBD, notably developing and revising National Biodiversity Strategy Action Plans (NBSAPs), national reporting and clearing house information functions (Ibid).

As mentioned, the criteria for accessing GEF funding are largely based on providing new and additional grants and concessional funding to cover the incremental costs of transforming a project with national benefits into one with global environmental benefits (www.thegef.org/gef/whatisgef).[75] According to Mee et al. (2008: 800), 'incremental costs' was a controversial term defined to express the extra burden that beneficiary developing countries would need to bear to tackle the lengthy project development process and potentially generate global benefits. The GEF is now putting in place a system of strategic priorities for which a results-based management framework is being developed (GEF 2007, cited in Mee et al. 2008). This framework claims to shift the institution from an 'approval' culture to a 'results-oriented' culture, focusing on delivering project outcomes and impacts during implementation.

[74] Last accessed 31 January 2011.
[75] Last accessed on 31 January 2011.

There is controversy around the separation of global and local benefits. Colchester (1991, cited in Gupta 1995: 26) argues that measures taken to achieve global benefits that have no corresponding local benefits exacerbate conflicts between local interests and global concerns, divert attention to 'environmental projects' that are not priorities of the recipient country governments, draw expertise away from areas of crucial national concern and invest it in issues of global interest, and emphasise *in situ* conservation rather than securing rural livelihoods. Hufty and Muttenzer (2002: 295) argue that the GEF is strongly influenced by the organisational culture of the World Bank and of the foreign aid regime as it was formerly co-administered by the Bank, noting that 'the GEF funds biodiversity chiefly as any other World Bank project particularly by focusing on projects rather than development paths'. As the secretariat is located within the World Bank and the day-to-day functioning of the GEF occurs within Bank premises, this proximity has meant that the GEF is affected by the procedures of the Bank, such as tight security, secretive information policies and rules of non-disclosure (Gupta 1999). Young (1999: 260) concludes:

> All participants in GEF – bureaucratic, scientific, financial, governmental or non-governmental – play a new game: presenting their needs in 'globalised' language. This game, and the political structures sustaining it, means conservation can take the form of 'green developmentalism', the latest 'ecological colonialism'. In these new enclosures the natural environment benefits global elites – 'scientific', 'eco'-tourism and 'genetic resources' – at the expense of priceless cultures and low-impact livelihoods that disrupt neat calculations and complicate political fixes.

As Gupta (1999: 41) also concludes:

> At the lowest level, 'global environmental problems' need to be dealt with. However, when these problems are prioritised over the local problems, the potential for consequent local problems is quite great. If 'global environmental problems' are to be addressed by local measures, they should not be at the cost of the local people and their environment.

As noted earlier, the GEF's most recent work in the Okavango Delta is through the Biokavango Project, and seeks to achieve goal 2 of the GEF Biodiversity Strategy: 'Mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors'. The activities of this project and its outcomes for biodiversity management in the area are the subject of Chapter 6. As that chapter will show, the activities of the Biokavango Project have culminated in restricted access to fisheries for some user-groups in order to protect the resource from perceived over-exploitation and possible extinction.

4.6.2.3 Implementation of the biodiversity convention and GEF projects in Botswana

Implementation of the CBD occurs primarily at the national level, where governments are held responsible for conserving their biological diversity in exchange for recognition of their sovereign

rights over such resources. This requires a lot of work, ranging from legal and administrative reforms to scientific infrastructure, capacity for which has always been identified as lacking, and remains one of the most cited constraints to developing and implementing the principles of the Convention (Le Prestre 2002; MEWT 2009; GEF 2010).[76] Other than putting in place both *in situ* and *ex situ* conservation measures, such as establishing protected areas and gene and seed banks respectively, national governments are required to develop National Biodiversity Strategy and Action Plans, known as NBSAPs for short. These are meant to serve as primary tools for the conservation and sustainable use of biological resources; governments are expected to integrate NBSAPs into relevant sectoral and cross-sectoral plans, programmes and policies, as per Article 6(a) and 6(b) of the convention. For Botswana, the role of the NBSAP is to 'contribute to the long-term health of Botswana's ecosystems and related species, and to encourage sustainable and wise use of resources through the provision of a framework of specific activities designed to improve the way biodiversity is *perceived, utilised* and *conserved'* (MEWT 2007a: vii) (emphasis added).

Although Botswana signed the CBD in 1995, it took over ten years to adopt a final NBSAP (the first draft published in 2004 and later revised in 2007). The project started in July 2002 with funding from the GEF, coordinated by the UNDP and implemented by the National Conservation Strategy Coordinating Agency (NCSA) (MEWT 2007), the same institution that coordinated the ODMP. At the time, the NCSA fell under the Ministry of Lands and Housing, as the MEWT did not yet exist. The GEF contributed US$325,000 towards the project and the Government of Botswana contributed US$25,000. The process of developing the BSAP involved two main outputs: (1) a stock-taking exercise to document the status of biodiversity, its uses, threats, current conservation measures, additional required conservation measures, the role of traditional knowledge, sharing of benefits and biosafety; and (2) the drafting of the NBSAP itself (Ibid). The BSAP was developed largely by consultants (Ecosurve)[77] with IUCN Botswana. The project followed the methodology recommended in the IUCN's *Guide to the Convention on Biological Diversity* and the WRI/IUCN/UNEP *Guidelines for Preparing National Biodiversity Strategy and Action Plans* (GEF Enabling Activity Proposal, GEF undated).[78]

According to Botswana's fourth report to the UNCBD published in 2009, little political will exists to implement the BSAP *per se,* and the strategy itself 'has not had much impact on government departments other than the Ministry of Environment, Wildlife and Tourism' (MEWT 2009: 63). In

[76] GEF strategy available at http://www.thegef.org/gef/BIO-strategy, last accessed on 31 January 2011.
[77] Environmental consultancy based in Botswana.
[78] Available at http://gefonline.org/projectDetailsSQL.cfm?projID=1041, last accessed on 2 March 2011.

fact, many government sectors claimed to have never heard of or seen the strategy (Ibid: 65). In general, therefore, the UNCBD and the adoption of the BSAP have not changed much at the national planning level, except perhaps to advance the conservation agenda. As Le Preste (2002: 323) argues, developing NBSAPs, a process that was heavily supported by the GEF, has in most cases been a *pro forma* exercise for many of the countries; rather than indicating national priorities, these documents have only been first steps that have helped identify existing policies, administrative structures and constraints, define gaps in knowledge and stimulate national discussion about these issues. This is true for Botswana's BSAP, as it makes no concrete political commitments but merely echoes the UNCBD in elaborating 'the need for conservation and sustainable management of biodiversity', as well the 'need to develop an ABS strategy in order to facilitate benefit-sharing from the use of biodiversity' (MEWT 2007a: ix), but fails to outline how this would be done. As noted above, the Department of Environmental Affairs, which has been tasked with coordinating the implementation of the BSAP, is both new (established in 2005) and weak, and lacks jurisdiction over other government agencies, some of which are more powerful (e.g. Department of Tourism and Department of Wildlife and National Parks). Responsibilities for biodiversity management are fragmented across institutions (MEWT 2009a).[79] For instance, as a powerful agency with the capacity to enforce wildlife regulations, the Department of Wildlife and National Parks (DWNP) has been given the responsibility to oversee the implementation of the CITES convention; the activities of this agency entail combating poaching and managing protected areas, and it functions as a law enforcement agency.

The success of implementing the NBSAP, and therefore the UNCBD, has largely been in the area of promulgating a legislative framework for regulating the use of biological resources. As Chapters 5 and 6 will reveal, Botswana's environmental management and discourse is characterised by strict regulation of the use of natural resources. Currently, land under protection in Botswana constitutes 45% of the national territory (MEWT 2007). Regarding the implementation of the UNCBD, the goal of biodiversity conservation has largely been met in the context of Botswana. As stated earlier, implementing the other objectives of the UNCBD, in particular objective three on ABS, remains a challenge. Access to natural resources in conservation areas like the Okavango Delta is gradually declining, despite the action and rhetoric of the UNCDB, the GEF, the Ramsar Convention and other international environmental actors to facilitate management that improves the livelihoods of local communities.

[79] National Capacity Self Assessment (NCSA) Phase II Project, Draft Thematic Assessment Report.

Despite views that the implementation of the UNCBD is weak at the global level (Le Prestre 2002; Williams 2005) and has failed to successfully influence policy at national levels, the work of institutions such as the GEF shows that at the resource level, interventions through projects have been successful in influencing practice. As will be discussed in Chapter 6, the GEF Biokavango Project has been able to influence the promulgation of restrictive fishing regulations as part of its goal to mainstream biodiversity conservation in production sectors. The GEF project has also served to advance the interests of certain groups and strengthen their positions in environmental competition and conflict. Through the new regulations, the commercial tourism sector has been able to influence the adoption of strict fisheries regulations by presenting the activities of small-scale commercial fisheries in the Okavango Delta as unsustainable. The GEF project activities and their outcomes are discussed in more detail in Chapter 6.

4.7 Conclusions

This chapter has attempted to summarise the current debates on global environmental management, in particular the global framings and discourses around biodiversity and wetland conservation and loss. It has argued that the framing of biodiversity conservation as a global issue, and the resulting international responses (e.g. Ramsar listing, the UNCBD and the GEF), have significantly shaped the environmental discourse and influenced the practices of NGOs, international organisations and governments around the world. The chapter has also shown how the activities of international conservation organisations and institutions such as the GEF have been largely driven by a 'global public goods' approach to environmental management. The argument that resources such as the Okavango Delta are global commons and should be managed as such for the good of the global public has specifically informed the work of institutions such the GEF in its quest to 'generate global environmental benefits'. The chapter has argued that this way of perceiving environmental resources has also facilitated approaches that tend to commodify and even privatise the environment in order to protect it, thereby transferring control over resources from local people to powerful international conservation organisations and private elites. This is despite the rhetoric of participation and people-oriented conservation that has characterised the discourse of conservation since the late 1980s. This chapter has shown how at the national level, implementation of the UNCBD has largely been skewed towards conservation through protected area management, while the other objectives of the convention, especially that of access and benefit sharing from the use of biodiversity, have remained a challenge.

The chapter has examined the origins and impact of the Ramsar Convention and shown how its activities of singling out specific wetlands for conservation influence the management of such resources. It has set out the processes through which the Ramsar Convention was signed in Botswana, highlighting the interests of the Government of Botswana in aligning its tourism development goals with the conservation goals of institutions such as the IUCN and the Ramsar Convention. Although the Ramsar-driven Okavango Delta Management Plan was a success in revealing the political ecology of the Okavango Delta, and made progressive plans to promote the needs of local Okavango Delta communities in governance of the wetland, it has failed to influence decision-making and planning processes at the national level. Instead, the Ramsar status has been appropriated by powerful interests in the tourism industry to control more of the Okavango Delta, as will be shown in detail in the next two chapters. Furthermore, not only do international conventions fail to promote poverty reduction while conserving natural resources, but they have become 'new ways of legitimising global environmental and development interventions, making new policies and practices more refined forms of technocratic control over people and nature' (Jeanrenaud 2002: 41).

Taking these issues into consideration, how does a convention like the Ramsar Convention benefit local Okavango Delta communities? Does the enhanced conservation status of the Delta necessarily lead to 'wise use' of the wetland resources for the global public good, or does it benefit the already-advantaged groups? Furthermore, how do the GEF's 'mainstreaming biodiversity' interventions in the Okavango Delta improve the livelihoods of the Okavango Delta communities? This thesis argues that 'global environmental problems' have been prioritised over local concerns, and at a significant cost to local people and their livelihoods. At the local level, the global framings and discourses have legitimised increased control over the resource by powerful groups, in particular government agencies and private tourism interests.

The next chapter presents the empirical results from fieldwork. It explores the role of these global and national developments on local human-environment interactions, and discusses the natural resources-based livelihoods of the Okavango communities around agriculture, farming, the collection of non-timber resources, community-based tourism and subsistence fishing. This will serve to illustrate the challenges that have been faced by these local resource-users as a result of changes made by national policies, and highlight these policies' impacts on local people's access to and control over vital wetland resources. Chapter 6 will then focus specifically on the changing dynamics of fishing in the Delta and examine the project activities and outcomes of the GEF/UNDP project on local use of fish. This case is used as a lens through which to understand the role of

global environmental conservation discourses and practices in shaping the use and management of the Okavango, and their implications for national policies on biodiversity conservation. It will show how local, powerful actors have positioned themselves in the environmental conservation debate, employing crisis narratives to justify certain interventions in resource-use and management that advance their interests and strengthen their positions in controlling access to these resources. Thus, I will aim to demonstrate how understanding the political ecology of fish highlights the political ecology of the Okavango Delta in general.

Chapter 5

Drivers of change: environmental, socio-economic and political dynamics around the use of wetland resources in the Okavango Delta

5.1 Introduction

> The productivity of the natural resources base in dryland Botswana is exceptionally dynamic, with the provision of ecosystem goods and services largely determined by the extreme environmental conditions that affect water, soil, and landscape form (Sallu et al. 2010: 5).

As I explained in Chapter 3, the Okavango Delta swamps occur in a dry area where rainfall is variable and soils are nutrient-poor. Despite this, the availability of diverse natural resources found in the Okavango Delta area compares to no other in the country, and those with the ability to benefit from their use and exploitation have made considerable economic gains. Drought and abundance are an inherent part of life here, as are poverty and plenty. However, the ecology of the Okavango Delta system regulates activities such that most are seasonal. How livelihoods respond to these threats and opportunities depends on their ability to access natural, financial and other resources and use them to their advantage. While some may benefit from a high flood, others may lose everything as a result. The vulnerability, resilience and adaptive capacity of individuals, households and groups therefore largely determine their ability to cope with these changes.

An average household in the Okavango Delta has to adopt a flexible and diverse livelihood portfolio in order to take advantage of changing availabilities of access to natural assets. As also noted in Chapter 3, livelihood preferences are partly influenced by different people's cultural backgrounds, ethnic groups and social and economic status. What they share is their direct dependence on the wetland ecosystem, whether for fishing, farming, gathering wild foods or tourism.

There are many uses for the resources found in and around the Okavango Delta wetland, and with so many diverse users in one place, competition over resources is inevitable. Social and political dynamics determine who loses and who gains. Power relations determine the nature of different people's interactions with the environment in any setting. As Adger et al. (2005: 1) argue: 'It is important to recognise the winners and losers from cross-scale interaction on the basis of the exercise of power through domination, resistance and co-operation'.

In addition to competing claims at the resource-use level between different individuals and households who have customary claims on the resource, there are multiple external stakeholders making claims and calls on the Okavango Delta ecosystem and its resources. As Magole and Magole (2009: 875) note: 'The questions of who owns the Okavango Delta, who claims it, who has access to it, who benefits from it, and further, who should own it, are hotly contested'. Chapters 3 and 4 have outlined and analysed issues of claims, access to and control over the Okavango Delta and wider basin at national-regional and national-international levels by highlighting contestations over development plans by Botswana and Namibia *vis-à-vis* the conservation priorities of international (and to a small extent local) conservation institutions and organisations such as the Ramsar Convention, CI and the IUCN. For the purposes of this chapter, the analysis focuses on the interactions between the different claims made by *local* resource-users, the commercial tourism industry and the different government institutions responsible for different aspects of resource-use and management in the Okavango Delta (e.g. Department of Wildlife and National Parks, Department of Animal Production and Welfare, Department of Tourism), as well as other political-business interests of certain groups and individuals (e.g. powerful cattle-ranching interests) that have a bearing on wider human-environment interactions and resource access and control frameworks (e.g. policy) at the societal level.

The Okavango Delta is of high importance to the economy of Botswana for foreign exchange earnings through international tourism. It is currently the main focus of the country's wildlife-based tourism industry and an important site for wildlife and biodiversity conservation. However, Botswana's tourism strategy of 'High value Low volume' (HvLv)[80] means that the Okavango Delta remains virtually inaccessible for many within the country, and is reserved for the high-end tourist, usually from affluent Western countries such as the USA, Australia and Europe. The most aesthetically appealing and productive areas of the Delta are allocated to tourism and conservation. As noted in the preceding chapters, the tourism industry is controlled by a small, white and foreign elite, but alliances are growing between this group and the traditional Tswana elite (i.e. the bureaucratic, business and political elites). Conflict over natural resources is rife, and observable between certain sectors, particularly between wildlife-based tourism and traditional farming livelihoods. Communities contest their access to the Delta resources in general, arguing that laws and policies limit their access, whilst rich foreign tourists have unlimited access (Magole and

[80] This strategy encourages high-end clientele, and requires high start-up capital, therefore accessible mostly only to large-scale investors and their rich clients. The Okavango Delta tourism market is currently controlled by a few companies which operate as multinationals, with one company controlling close to 70% of the market (Susan Ringrose, Director of the Harry Oppenheimer Okavango Research Centre, interview, 2 April 09.

Magole 2009). Although 84% of land in Ngamiland is held under communal tenure, only 41% of it is actually under direct communal use (Ibid). Large-scale cattle ranching is not common in the interior of the Okavango Delta, but there are a few commercial farms and intensive livestock production to the south of the Delta, where mainstream Tswana groups are found, as well as to the west, closer to the border with Namibia, in the sandveld areas where the pastoralist Herero (originally from Namibia) have settled over time. This pattern results largely from the fact that the majority of large cattle-owning pastoralists (i.e. mainstream Tswana tribes) are based outside the Ngamiland region. Due to this, the wealthier categories of cattle-owners, who also control other socio-economic and political aspects of Botswana's economy (i.e. the Tswana elite) (Picard 1980) do not necessarily have a direct interest in accessing the land and water resources of the Okavango Delta, particularly after the failed attempts of the SOIWDP[81] project in the early 1990s. This is, however, not to imply that livestock production in the Okavango region is not impacted by the decisions and interests of the elite outside the region, as it is, particularly with regard to the control of livestock diseases. Powerful tourism interests (both private and government) within and outside the Okavango also have a significant bearing on the kinds of land-use decisions that are made by government agencies, balancing the returns to both commercial cattle production and tourism, while addressing the expectations of the international conservation community. This is because both tourism and cattle production are of primary importance not only to the economy of Botswana, but also to the personal and group interests of those making policy decisions. However, the importance of commercial tourism is recent, compared to commercial cattle production, which dates back to pre-colonial days, and intensified during colonialism and after independence. Cattle ranching for beef production and diamond mining, therefore, formed the backbone of the economy until the 1990s when tourism became the second most important economic activity after diamond mining. This context forms an important part of the background against which Okavango Delta use, management and conservation occur.

With this background, environmental policy and discourse in Botswana hold the widespread view that natural resources are at risk of degradation owing to the traditional livelihood strategies and environmental practices of small-scale farmers, herders, fishers and other subsistence resource-users. Recurring terms in policy discourse include 'overgrazing', 'over-stocking', 'overharvesting', 'over-exploitation', 'over-utilisation' and 'degradation' of natural resources and the like, and solutions have often been framed around commercial utilisation, privatisation of common pool

[81] The Southern Okavango Integrated Water Development Project, as discussed in detail in Chapter 3.

resources or modernisation of production systems (e.g. arable farming). These views are held strongly by many within the areas of policy-making, conservation and tourism, and have become 'conventional wisdom and are indeed the driving forces behind much environmental policy' (Leach and Mearns 1996: 1). These views intermingle with the personal and group interests of those driving policy, and, as this chapter will make clear, policy decisions often benefit the interests of the decision-makers. That said, these interests have also to some extent been constrained by international conservation expectations and work in the Okavango Delta, as shown in Chapter 3.

Other than its socio-economic importance, the landscape of the Okavango Delta, like many landscapes, plays a historically, culturally-embedded and symbolic role in the everyday lives of the people and cannot be disentangled from their daily practices and interactions with the environment. The combination of different assets and capabilities has resulted in a highly diversified way of life (Bishop and Scoones 1994). Access to these resources and control over their use remain critical to the maintenance of these livelihoods. Over time they have adapted to environmental change dynamics, but they have also had to contend with changes in policy and management, and competition from external natural resource-use interests of other groups, which have presented both opportunities and challenges to the local way of life. In keeping with the political ecology approach, this chapter discusses the role of policy discourse and practice, the political-business interests of powerful groups, and local power relations in local human-environment interactions in shaping access to and control over different resources by different groups.

5.2 Understanding access to and control over natural resources in Botswana: discourse, policy and practice

Understanding the political ecology of the Okavango Delta, and in particular the political economy of resource access and distribution, requires a closer look at the nature of the policies that have been implemented in this area over time. 'The Tswana pre-colonial polity was centralised and hierarchical...and cattle constituted the major form of wealth and the pre-eminent means of political authority and clientage in the Tswana polities' (Peters 1984: 30). This centralised approach to governance was entrenched by the British colonial administrators, who recognised the authority of (some) chiefs and supported cattle trade, and therefore the cattle-elite. Post-colonial administration and bureaucratic structures maintained this centralised and hierarchical approach and expanded it to all spheres of governance, including natural resource management. The most important change, however, was that the post-colonial government removed the authority of chiefs in land

administration and control, and placed it in a central government institution: the Land Board (Lekorwe 1998; Magole and Magole 2009). On paper, Land Boards are local authorities, but they are under the direct control of central government agencies and the Minister of Lands and Housing.

Modernisation of production systems was an important aspect of Botswana's developmental state policies at independence (Magole 2003; Rhode et al. 2006), and control over land and other resources formed an important part of its development strategy. Mobile pastoral practices and other traditional ways of doing things were seen as not only backward but unproductive (Peters 1994). They were also seen to be leading to unsystematic and unplanned development and uncontrolled pressure on land and natural resources (Rhode et al. 2006). New, modern institutions for the management of natural resources were therefore promoted as the solution. Adger et al. (2001: 2) argue that one of the main problems identified with this 'top-down' model of interaction between the government and resource-users is that these practices lead to 'locked-in patterns of resource-use'. They argue that 'these practices are often detrimental to the ability to adapt to surprise and shock: management based solely on the stability of systems creates its own pathologies' (Ibid).

Land for agriculture was made freely available to all citizens at independence, but later became increasingly privatised through modernisation policies, resulting in widespread resource capture by the political and business elites (Magole 2003; Swatuk 2005; Poteete 2009a). The 1975 Tribal Grazing Land Policy (TGLP), a World Bank-assisted programme, and the 1991 National Policy on Agricultural Development (NPAD) were significant in facilitating this process (Peters 1994; Magole 2003). Drawing its rationale directly from Garret Hardin's 'tragedy of the commons' thesis (1968), the TGLP granted individuals long-term exclusive lease rights to land previously used for communal grazing (Picard 1980; Lawry 1990; Peters 1994; Magole 2003; Rhode et al. 2006). This was justified on the basis that grazing commons are an open-access resource and stocking is difficult to control, leading to overgrazing. The Government of Botswana, in White Paper No.2 of 1975, introducing the policy to the Botswana Parliament, stated:

> Under the communal grazing system it is in no one individual's interest to limit the number of his animals. If one man takes his cattle off, someone else moves his cattle in. Unless livestock numbers are somehow tied to specific grazing areas no one has an incentive to control grazing (quoted in Lawry 1990: 404).

Through the TGLP, communal grazing land was rezoned into three types:

> Commercial, where groups and individuals will be given *exclusive rights* [and leases] to specific areas and *ranch development will be encouraged*; communal, where the traditional communal grazing system will not be changed, but where *ways to teach people better management* must be

> found; and reserved areas, which would be unallocated land set aside for the future as safeguards for the poorer members of the population (Government of Botswana, 1975, cited in Peters, 1994: 139) (emphasis added).

The third category of *unallocated land* would later be converted into Wildlife Management Areas (WMAs) through the Wildlife Conservation Policy of 1986 (Peters 1994; Cullis and Watson 2005; Magole 2009), the primary use of which is commercial wildlife utilisation (Rhode et al. 2006). As will be shown in this chapter, management of WMAs in the Okavango Delta, and indeed in many parts of the country, has largely been transferred to private individuals and companies in the tourism sector through commercial wildlife utilisation policies, and although community use was meant to be the priority use under the CBNRM framework, most benefits have accrued to private tourism companies for reasons that will be outlined later in the chapter.

Through the TGLP, competition over communal grazing resources intensified, as it facilitated, among other things, the development of dual grazing rights and practices (Rhode et al. 2006). These dual grazing practices developed perhaps as an unintended consequence of the policy, but through it ranch owners had access to communal grazing areas while having exclusive access to grazing within their private ranches. However, as Picard (1980) argues, state policies are often designed to serve the interests of the ruling and policy elites, so in some ways it could be argued that the consequences were not necessarily unintended. Poorer smallholder farmers were therefore squeezed into marginal lands where access to water and good grazing were limited. Moreover, the policy had not only worsened the situation, but had failed to achieve many of the goals it had made, those of environmental protection. A government-sponsored evaluation of the TGLP in late 1977 argued that its introduction had had an enormous adverse effect upon Botswana's economic stratification, noting that the policy would 'affect the already highly-skewed income distribution more negatively' (Weimer 1977: 46, cited in Picard 1980: 319). Forsbroke (1971, cited in Picard 1980: 319) also writes:

> In 1970, 29% of the rural population owned no cattle whatsoever, while another 21% had less than 10 cattle. Thus half the population possessed only 5% of the national herd. On the other side, an upper category of 6% of the owners possesses 40% of the national herd of 1.5 million.

Picard (1980: 319) also argues:

> Not only is the national level in Botswana dominated by an economic elite of large cattle owners, but local political structures are also controlled by a fairly tight-knit elite linked by economic characteristics.

Senior level administrators in Botswana are representative of an educated, cattle-owning elite that control much of the cattle industry and related sectors of the domestic economy, including mining. Often these same people are members of the ruling party. Therefore, 'outside of Parliament and the electoral process, party elites do not represent a separate set of actors in the policy-making process' (Picard 1980: 317). Judging from the observations and the statistics quoted above, it can be concluded that the 1975 grazing policy benefited the cattle and political elite, as did the 1991 Policy on National Agricultural Development (NPAD). The NPAD was a response to the failure of the TGLP to achieve environmental protection and increase production as initially planned, but instead of replacing it, it reinforced the policy (Peters 1994; Cullis and Watson 2005).

Fencing off private ranches and communal grazing areas was seen as the solution, and the 1991 policy was adopted to further this argument. The policy paper argued:

> The present uncontrolled management of communal grazing lands is not only unproductive but has led to unprecedented range degradation…and soil erosion is getting worse in these areas (Ministry of Agriculture 1991: 10).

The policy also argued that 'despite problems experienced during implementation, TGLP demonstrated that fenced farming is much more productive than the communal management system' (Ministry of Agriculture 1991: 11). Independent reviews, however, showed evidence to the contrary (Adams et al. 2003; Rhode et al. 2006). This fencing of the grazing commons has systematically marginalised many smallholder farmers who could not afford ranches and private boreholes, and has benefited the cattle elite at significant cost to the poor (Peters 1994; Cullis and Watson 2005).

Through the post-colonial expansion of protected areas, the centralised approach to governance has also been applied to wildlife management and conservation in many parts of Africa,[82] often with negative consequences for the communities living in those areas. As noted in Chapter 4, the renewed concerns over global biodiversity in the late 1980s further enhanced the power of the wildlife conservation discourse. Using a case study of the creation of Namaqualand National Park in South Africa in the early 2000s, Benjaminsen et al. (2008) highlight the contradictions between global interests in biodiversity conservation and local land needs. As they show, often communities have lost access to and control over resources due to evictions and relocations to marginal areas outside the parks and game reserves, and due to the enactment of strict, military-style control over

[82] Former British colonies including Kenya and Tanzania inherited strict conservation policies that involved the eviction of indigenous communities to make way for parks that were reserved exclusively for wildlife conservation.

the protected areas (similar cases are shown by Neumann 1998; Brockington 2002; Robbins 2004; Magole 2009; Poteete 2009a). As a result of science and policy processes that 'misread' (c.f. Fairhead and Leach 1996) the Botswana landscape, and indeed much of that of Africa, there developed widespread views within development and policy circles that Botswana's physical environment was under pressure and degrading, particularly in rural areas. Science and policy also intimately linked environmental degradation to poverty and vice versa. As also argued by Maddox (2002, cited in Benjaminsen et al. 2008: 225), 'the widespread perception of communal farming in southern Africa as ecologically destructive and economically inefficient is rooted in colonial views of 'native' African farming'. Benjaminsen et al. (2008) argue that this perception is shared by an influential network of actors and is part of a broader dominating discourse in southern Africa on range management, environmental conservation and agricultural development. As a result, in the context of Botswana, the modernisation of production processes and the privatisation of common pool resources have been promoted as the solution to resource degradation. As these views suit the commercial interests of the elite in accumulating land and gaining exclusive rights and access to grazing and water resources, influential land, tourism and conservation policies have been put in place and implemented and, as will be shown in this chapter, these have largely benefited elite groups within the country.

Botswana has laws regulating many aspects of the environment and its use, including wildlife, water resources, forestry and range (vegetation) resources, and environmental practices such as fishing and the use of fire to manage the grazing range. For the purposes of this chapter, only the main policies affecting natural resource use in the Okavango Delta are briefly explored as a background to the discussion on human-environment interactions in the area. These include policies on wildlife and environmental conservation, agriculture, tourism and fisheries.

5.2.1 Agricultural development policies and programmes

The preceding section discussed the land policies that regulate livestock farming, while this one will focus on the arable farming policies that were introduced to not only modernise arable farming but to increase productivity. To achieve this, the government adopted policies that promoted the intensification of arable farming systems alongside cattle ranching (Magole 2003; Rhode et al. 2006). Despite significant government investments in the agricultural sector, however, production has remained low and the benefits from policies have also been skewed, particularly in favour of the livestock sector (Fidzani 1998; Jefferis and Kelly 1999; Meyer and Bendsen 2003), as discussed above. A combination of the TGLP and the subsequent 1991 NPAD prioritised market-oriented

development over non-commercial and subsistence uses of natural resources (Poteete 2009b: 290). Today, owing to the 1986 Wildlife Conservation Policy, the TGLP, the NPAD and other related policies, all land outside protected areas and communal areas (residential and farming land) is gazetted as Wildlife Management Areas, and the primary land use in these areas is wildlife utilisation (Magole and Magole 2009). This is problematic particularly in areas like the Okavango Delta where no land remains for future agricultural use and competition between conservation and subsistence use is high. As noted by a senior officer in the Department of Wildlife and National Parks (DWNP):

> *The main source of conflicts in the Okavango is the conflicting policies for land use; while the agricultural policy advocates for food production and therefore use of land, DWNP policies advocate for conservation and wildlife management. Agriculture is an extensive activity which requires access to land of a particular quality and quantity in order to be productive. Conservation, on the other hand, restricts access. This is problematic here in the Okavango where land is either used for community purposes (agro-pastoral) or allocated to wildlife conservation. All land is therefore virtually allocated, causing too many interactions between these two activities* (Senior DWNP Officer, interview, 3 September 2009).

About 70% of Botswana's population derives a partial livelihood from traditional arable farming (Seleka 1999). The smallholder arable sub-sector remains relatively unproductive, owing primarily to climate conditions in the country, particularly nutrient-poor soils, but low rainfall is also a significant factor. To date, the government continues to provide subsidies to smallholder farmers to encourage crop production and promote food security at the household level. In response to criticism that its agricultural policies (the TGLP in particular) did not benefit smallholder farmers, the government assessed the problem by commissioning a European Commission-supported study in 1977/78 (Malope and Batisani 2008). The study was instrumental in laying the general framework for the Arable Lands Development Programme (ALDEP), particularly through its detailed articulation of a smallholder-focused policy for creating employment in agriculture (Malope and Batisani 2008). Since the early 1980s, ALDEP and the Accelerated Rainfed Arable Programme (ARAP) and its variant, Drought Relief to Arable Farmers, have dominated the arable sub-sector (Seleka 1999). ARAP was first introduced in 1982 with funding from the International Fund for Agricultural Development (IFAD) to demonstrate the impact of improved seeds, fertiliser application, row planting and weeding (Ibid). ALDEP was implemented during the 1981-1990 period. Phase 1 of the scheme provided farmers with animal draught power (donkeys, oxen and mules), animal-drawn implements (ploughs, planters, cultivators and harrows), fencing materials, water catchment tanks, carts and fertilisers. Phase 2 started in 1991, with the same packages, but focused on strengthening agricultural extension services, technology transfer and

training/encouraging ALDEP Phase 1 beneficiaries to utilise the packages they had obtained (Seleka 1999). The programmes, however, were largely unsustainable (Ibid). One of the explanations for this is that poor farmers are reluctant to use improved inputs in arable farming and would rather invest in livestock as the returns are generally higher (Malope and Batisani 2008). The programmes were eventually terminated, and without subsidies, farmers had to revert to traditional, low-input farming. Seleka (1999) concludes that overall, rainfall is the main input in the traditional arable sub-sector, and farmers decide how much land to cultivate based primarily on this. Other non-rainfall related challenges also influence the average area cultivated, especially in the Okavango Delta where there is a lack of draught power and farm labour (Meyer and Bendsen 2003).

In late 2008, the government introduced a revised version of the ALDEP, an agricultural subsidy programme called the Integrated Support Programme for Arable Agriculture Development (ISPAAD), through which arable farmers could acquire free inputs such as seeds and fertilisers and get compensation for ploughing and fencing their fields. This scheme encouraged more farmers to intensify agricultural productivity during the 2008/09 ploughing season, although the impact has been minimal. Judging from the historical performance of the arable sub-sector, and the continued failure of programmes such as ALDEP, ARAP, FAP and many similar schemes, it remains to be seen what difference ISPAAD will make for the smallholder farmer once it is fully implemented. As this chapter will show, the underlying problems of low productivity in the agricultural sector, at least in the Okavango Delta region, are more complex and go beyond the explanation of seemingly ineffective traditional systems of production.

5.2.2 Wildlife and environmental conservation policies

Driven by the perception that wildlife and other natural resources such as wood and grass are openly accessed and therefore under threat of degradation and even extinction (e.g. Thompson 1976; Campbell and Cooke 1984; Cooke and Campbell 1987), the focus of environmental policy in Botswana has been to raise the awareness of rural people of the negative impacts of their activities on the environment. An aggressive focus has also been to introduce strict management systems that regulate access to and use of communal resources. With regard to wildlife, a Fauna Conservation Act had been put in place in 1961 under British rule, to which several amendments have been made in recent decades, the main one being the 1986 Wildlife Conservation and National Parks Act. The Fauna Conservation Act of 1961, amended in 1979, provides for the establishment of game reserves, sanctuaries, private game reserves and controlled hunting areas. The main focus of this

Act was to regulate the hunting of wild animals and trading in their products. The Wildlife Conservation and National Parks Act of 1986 and its reviews, the most recent being the 1992 Act (Chapter 38: 01) covers the establishment, control and management of national parks, and incorporates the provisions of the 1973 Convention on International Trade in Endangered Species (CITES), which Botswana ratified in 1978. The 1992 Act goes further to establish Wildlife Management Areas (WMAs) and Controlled Hunting Areas (CHAs), and to identify protected animals.

CITES protects certain species of fauna and flora by regulating trade in those species and their products (Van Aarde and Ferreira 2009: 8). This would come at a cost for Botswana when, in 1989, CITES decided to list African elephants *(Loxodanto africana)* under Appendix I of the Convention, banning trade in their products. Prior to 1989, African elephants were listed under Appendix II, meaning their products (e.g. ivory) could be traded under strict supervision of the process by the CITES Secretariat, and culling may also be allowed under the same conditions. Due to this reclassification, Botswana and other countries with elephants could not regulate their elephant populations by culling. This led to high elephant populations and increased elephant-human interactions in areas like the Okavango Delta and Chobe in northern Botswana. Botswana and several other African countries lobbied the CITES community to reclassify their elephant populations back to Appendix 2 to allow population control, and this was allowed in 1997 after several years of lobbying.[83] As discussed in Chapter 3, several other international conventions have since been signed around issues of desertification, climate change, pollution and biodiversity conservation, and these have significantly informed and shaped current national environmental policy.

A lot has changed since the first wildlife conservation legislation was put in place in Botswana, especially the commercial tourism industry's growth and its implications on wildlife management and use. The current focus of wildlife and environmental policy has largely reverted to strict, centralised control over wildlife and other natural resources. That said, community-based natural resources have also since emerged as a globally-accepted approach to managing local environmental resources and balancing conservation with development and poverty reduction

[83] In 1997, CITES allowed Botswana, Namibia and Zimbabwe to change the classification of their elephants from CITES Appendix I, which prohibits most international trade, to Appendix II, which permits regulated trade, and to hold an auction of their government ivory stocks harvested from elephants that had died naturally in game parks. The proceeds were to fund conservation and education. South Africa successfully appealed to loosen protection of its elephant population in 2000, and joined the collective auction in 2008, in which it, along with Botswana, Namibia and Zimbabwe, sold a total of 119 tons of ivory to Japan and China for approximately US$17 million (Susan Hack on www.savetheelephant.org).

(Shackleton et al. 2010). As this chapter will show, CBNRM in Botswana, as in most of southern Africa, focuses on the use of wildlife resources.

5.2.3 Commercial tourism development policies

Botswana's tourism industry is focused on the use of wildlife resources and the scenic beauty of the landscape. It developed in the 1960s through private investment by a few individuals, with virtually no government support or control. The first tourism-related activities were safari hunting in the early 1960s, and grew to include photography tourism in the early 1970s (Johnson 1976: 235). Safari hunting is the more lucrative of the two activities and has contributed significantly to total tourism revenues over the years (Kgathi et al. 2004). At independence, tourism in Botswana was almost insignificant, but by the year 2000 it had grown to be the second largest economic sector after diamonds (Mbaiwa 2005), with a 4.3% direct contribution to GDP in 2007, and an indirect contribution of about 9% to GDP in the same year (Government of Botswana 2008a). According to the Ministry of Environment, Wildlife and Tourism (MEWT) (2008), a study by the World Bank and the Botswana Institute of Development Policy Analysis (BIDPA) has indicated that tourism exports amounted to P796 million (US$118 million)[84] in 2002, representing 5.3% of total exports and making it the second largest export sector behind diamonds (P12, 479 million of diamonds exported in 2002) (US$1.85 billion).[85] 1976 statistics show that the total contribution of tourism to the economy was only P3.2 million (about US$472,000)[86] for 1974/75 (Johnson 1976), compared to about US$568 million in 2005 (WTO 2007, cited in Rihoy and Maguranyanga 2010: 55). This signifies accelerated growth in the industry, and most of this was, and still is, generated from the northern parts of Botswana, mostly from the Okavango Delta. The utilisation of wildlife for consumptive (e.g. hunting, translocation and trophy process) and non-consumptive (photography, game viewing) purposes are the primary components of Botswana's tourism industry, and all this occurs within the designated Wildlife Management Areas (WMAs) and Controlled Hunting Areas (CHAs) (Magole and Magole 2009). Non-consumptive utilisation is also allowed within protected areas (game reserves and national parks) and a number of tourism facilities (camps and lodges) are located in these places. In 2009, it was estimated that 100,000 tourists pass through the Okavango Delta every year (Magole and Magole 2009), compared to an estimated 50,000 in 2002 (Mbaiwa 2005).

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[84] Based on 3 August 2010 exchange rates (http://www.xe.com/ucc/convert.cgi?Amount=12+479+000000&From=BWP&To=USD).
[85] Ibid.
[86] Ibid.

In the late 1980s and early 1990s, the Botswana government became increasingly interested in developing the tourism industry along with the private sector, when it became evident that tourism was an important economic activity, and the controversy of the SOIWDP reinforced the government's interest in growing the tourism sector. The focus was to regulate the industry and ensure sustainable growth with the goal of diversifying the economy away from minerals (Government of Botswana 2008a). In addition, the explosive growth of the industry in the 1980s raised concerns about the environmental and social impacts of tourism activities if left outside government control. Environmental impacts that have been raised range from poor waste management (litter and waste water) to noise pollution and the creation of illegal roads in protected areas (Mbaiwa 2002). As also discussed in Chapter 4, the major problem with Okavango Delta tourism has been the development of a type of tourism referred to as 'enclave tourism' or internal colonialism (Mbaiwa 2005). Mbaiwa (2005) and Darkoh and Mbaiwa (2006) show that over 53.7% of tourist facilities in the Okavango Delta are foreign-owned, mostly by white South African nationals; citizens own 17.9% and the remaining 23.3% are jointly owned between citizens and non-citizens. This dominance of the industry by foreign investors, as well as the lack of local investment, has facilitated reduced control over local resources in the area. As already noted, the traditional Tswana elite (bureaucratic, business and political) are increasingly aligning themselves with the emerging tourism elite, and, in this way, have been able to influence policy such that significant benefits accrue to these groups. The tourism industry has also increasingly used these political-business relations with the ruling elite to bargain for, access and control more of the Okavango Delta resources. An article carried by the *Mail and Guardian*[87] Centre for Investigative Journalism on July 1, 2011, entitled 'Questionable dealings of connected men' linked Ian Khama, Botswana's current President, to one of the largest companies in the tourism industry in Botswana, Okavango Wilderness Safaris. The article noted:

> Khama is a shareholder in Linyanti Investments, a subsidiary of Wilderness Holdings, a company criticised by the Bushmen and international pressure group Survival International for illegally occupying their ancestral land in the Central Kalahari Game Reserve.[88]

The newspaper article also cited the recent (January 2010) appointment of Khama's nephew and his personal lawyers to the Board of Wilderness Holdings, and the award of a tourism concession licence to Wilderness Holdings until December 2025.

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[87] *The Mail and Guardian* is a leading South African newspaper.

[88] Article available at http://amabhungane.co.za/article/2011-07-01-questionable-dealings-of-connected-men Last accessed on July 5, 2011.

Tourism has contributed to job creation and a reduction in income poverty in the Okavango region (from 85% in 1985 to 24% in 1993), although according to the Ministry of Finance, these statistics need to be treated with caution (Mbaiwa 2005: 166). However, as noted in Chapter 4, new social problems have arisen from within the sector, and old ones intensified. Mbaiwa and Darkoh (2006) note the deterioration of racial relations, and also a rise in prostitution and a general worsening of gender relations. In this chapter, I will introduce and examine the critical factors behind increasing land-use conflicts between the tourism sector and the communities living alongside the prime tourism sites and protected areas. There have been concerns that communities deliberately start illegal bush fires and/or refuse to put out fires in WMAs, leaving the responsibility to the DWNP as the custodian of wildlife resources (Sekhwela 2002). Although outlawed under the Herbage Preservation Act (Prevention of Fires) (Chapter 38: 02), wild fires continue to be prevalent in the Okavango Delta, and many of these are said to be anthropogenic (Tacheba et al. 2009). Community members maintain that the use of fire to burn reeds and floodplains to control vegetation growth is an important historical practice that has always worked for them.[89] Other reports indicate that tour operators are the ones that start fires in order to improve visibility for game viewing by tourists and then blame this on the locals (Sekwhela 2002). Some research has shown that the fires do not significantly affect biodiversity, and may in fact help to promote vegetation growth where this is practiced (e.g. Tacheba et al. 2009). However, Mendelsohn et al. (2010: 89) argue that the specific impacts of fires on the Delta's diversity are not well known. They conclude:

> The frequent fires have a variety of effects. On the one hand, plant resources, wildlife, fish production, and nutrients may be lost. But fires also release nutrients held in peat and other organic debris and cause changes to the distribution of water which add to the Delta's diversity.

The 1990 tourism policy is currently under review to address changes and challenges that have occurred in the industry since the last policy (Government of Botswana 2008a). Among the challenges are the inadequacy of participation, ownership and entrepreneurship by local citizens in the industry, and a broadening of the tourist market to promote growth-directed positioning to increase the revenue proceeds from tourism (Mbaiwa and Darkoh 2006; Government of Botswana 2008a). As part of the response to address some of these problems, as well as external pressure to recognise CBNRM, the Government of Botswana formally recognised CBNRM in 2007 through its approval of a CBNRM policy. On paper, however, as this chapter will show, and as observed by Poteete (2009a) and Rihoy and Maguranyanga (2010), the new policy recentralised the control of CBNRM financial benefits.

[89] Focus group discussion with Commercial Fishers, Seronga, 20 September 2008.

5.2.4 Community-Based Natural Resources Management (CBNRM)

'Arriving out of the desire to rectify the human costs associated with coercive conservation, CBNRM has sought to return the stewardship of biodiversity and natural resources to local communities through participation, empowerment and decentralisation' (Dressler et al. 2010: 5). In the southern African context, CBNRM arose from a widespread assumption that the rural poor exert unsustainable pressure on their natural environment (Fabricius and Koch 2004). The argument was therefore that better use practices, policies and management systems could halt this environmental degradation (Ibid). Indeed, the 2007 CBNRM Policy for Botswana defines CBNRM as:

> A development approach that incorporates natural resources conservation, the ultimate aim of which is to manage and protect the natural resource base (MEWT 2007: iii).

In Botswana, as in most of southern Africa, CBNRM has mostly been externally driven (Rihoy and Maguranyanga 2010; Nelson 2010). This occurred principally through the Natural Resource Management Programme (NRMP), initiated in 1989 as part of a Southern African Development Community (SADC) regional programme, funded by the United States Agency for International Development (USAID) (Twyman 2001; Rihoy and Maguranyanga 2010). As will be shown in this chapter, CBNRM implementation in Botswana has been challenging and has produced mixed results. Part of the failure lies in the resilience of institutionalised top-down decision-making processes, which are incompatible with the philosophy of CBNRM. Critics of the CBNRM approach within Botswana have cited the mineral policy adopted by the ruling party's (Botswana Democratic Party) 1965 election manifesto, which promised to nationalise all natural resources for the benefit of all Batswana (Bechuanaland Democratic Party 1965, cited in Poteete 2009a: 296), in particular reference to mineral resources. A policy that allocates natural resource-use benefits to certain communities is therefore seen as a deviation from an important nation-building project. As noted by a ruling party member of parliament during an interview for a study by Poteete (2009a: 296):

> It is an unfair policy. You give people rights in wildlife; you might as well give rights in diamonds. It is unfair and it is inconsistent with important policies in this country….With wildlife areas, you see a negation of the [mineral] policy. Are we creating a precedent? Are we suggesting to diamond areas and gold areas that you can start agitating for a bigger share of the resources found on your land?

CBNRM in Botswana occurs within Wildlife Management Areas (WMAs) (Mbaiwa et al. 2008; Magole and Magole 2009). As noted above, these were effectively created through the 1975 Tribal Land Grazing Policy (TGLP) as 'reserved areas for future use' and later converted into WMAs where domestic stock is permitted, but wildlife is the primary form of land use (Cullis and Watson

2005). The Wildlife and National Parks Act of 1992 later gazetted these WMAs into Controlled Hunting Areas (CHAs) and gave 'sweeping powers to the director of the Department of Wildlife and National Parks to grant or deny use of resources within the WMAs' (Magole 2009: 604). CHAs are concessions designated for community-controlled use (for hunting, tourism commercial or subsistence) of natural resources, commercial hunting safari and photographic safari (Twyman 2001), but are mostly used for tourism purposes (Mbaiwa et al. 2008). In the Ngamiland District, there are 17 CHAs: eight of these are 'community-controlled', eight are private concessions and one is administered by the Department of Wildlife and National Parks (Magole and Magole 2009). To access wildlife and other resources within community CHAs, members of communities are required to form legal entities such as 'trusts', or companies through which they can enter into a 15-year lease contract with the local land authority (i.e. Land Board) for the use of the area, and also to obtain a hunting quota from the DWNP for the use of wildlife. A third agreement is between the trust and Department of Tourism for a tourism licence (Mbaiwa et al. 2009; Magole and Magole 2009). Commercial hunting and photographic safaris are carried out almost entirely by private companies, virtually all foreign-owned. Communities who cannot utilise their quotas directly lease part or all of their quotas to private companies (Twyman 2001). This is generally in the form of a co-management arrangement, usually referred to as a joint venture partnership and usually for five years, subject to conditions of service to the community and conservation of the resource (Keitumetse 2009).

CBNRM in Botswana is mostly developed in the wildlife-rich parts of the north. The particular focus on wildlife is a result of increasing conflict between wildlife and communities living in these areas. The wildlife department, with encouragement and assistance from donor agencies, therefore devised CBNRM projects through which communities could benefit from wildlife conservation and therefore support it. In its conceptual phase, the primary trigger for CBNRM was conservation, rather than the need for social empowerment or economic development in rural settlements (Cassidy 2000). Economic benefits were therefore seen as a means of achieving conservation.

The development of CBNRM as a management approach in Botswana has from the start lacked a legislative framework and a comprehensive focus, and decisions are usually based on administrative discretion (Nelson and Agrawal 2008). The use of natural resources for income generation was first acknowledged in official policy in the Wildlife Conservation and National Parks Act of 1986 through the establishment of WMAs and CHAs for community use. It was then explicitly articulated in the Revised National Policy for Rural Development (2002), in which the CBNRM

approach was recommended. The official CBNRM policy was only approved by parliament in late 2007.[90] The final product, the Community-Based Natural Resource Management (CBNRM) Policy, 2007, however, is critical of community-based organisations (CBOs), and posits that 'CBO management practices require regulation for more equitable community benefit sharing' (MEWT 2007: 1). The document goes on to outline the role of CBOs and the procedures to be followed in setting them up, and notes that:

> Whilst communities are the custodians of the land, and its natural resources…the government has the responsibility to ensure the overall wellbeing of biodiversity and the environment, on behalf of its citizens. It therefore retains the power to intervene where necessary to protect a particular species, ecosystem, or habitat in the interest of the nation (p.9).

The wildlife department (DWNP) retains control over wildlife resources and features prominently in the decision-making processes at the community level (Magole and Magole 2009), as do private tourism business interests. Unlike informal practice between 1989, when the first CBNRM programmes were introduced, and 2007, when the 'formal' policy was adopted, the official CBNRM policy partially recentralised wildlife management (Poteete 2009a). Other than the DWNP, other central government institutions, primarily the Agricultural Resources Board (ARB) and in particular the District Commissioner (DC)[91] (the most senior central government officer at district level) are given greater control over the management and use of wildlife resources and the activities of community-based organisations (Rihoy and Maguranyanga 2010).

As in neighbouring Namibia, CBOs in Botswana used to receive 100% of the proceeds from CBNRM activities prior to the 2007 CBNRM Policy (Nelson 2010; Rihoy and Maguranyanga 2010). The new CBNRM policy not only recentralises control over wildlife resources, but also splits revenues from CBNRM projects into two streams: CBOs will continue to receive 35% of revenues directly, but 65% will supposedly go into a new National Environment Fund (Ndlovu 2007, cited in Poteete 2009a: 292; Magole 2009: 604).[92] By the end of fieldwork in April 2009, this environment fund had not yet been formed, and opinions held by community-based organisations, such as the Okavango Community Trust (OCT) based in Seronga, were that this new policy provision would be deleterious to CBNRM and would render it useless, as very few direct benefits would remain under community control (Ndlovu 2007). The Basarwa/San communities in the

[90] Organisations such as the IUCN Botswana, however, had been lobbying government to adopt a CBNRM policy for over a decade.
[91] District Commissioners are a relic of British colonialism. Their role in local government is to represent the interests of central government at the local level.
[92] Also an interview with a Senior Environment Officer, 8 April 2009.

Gudigwa area (north-east of the Moremi Game Reserve) are particularly critical of the CBNRM approach and have repeatedly asked for a reinstatement of the former subsistence hunting rights that they were able to access through the 'Special Game Licence' (SGL) system prior to 1996 (Mbaiwa et al. 2008). The SGL system recognised the rights of Basarwa/San communities to hunt as traditional hunter-gatherers, but in 1996 the government abolished this system on grounds that it was being abused (Mbaiwa et al. 2008; Magole 2009).

It is currently unclear how CBRNM will develop in Botswana, but the government currently cites maladministration and misuse of CBNRM funds, as well as a lack of local capacity, as the reasons for increased control over CBNRM programmes (MEWT 2007). The government has neither demonstrated any effort to increase the local capacity of CBOs nor increase the resources of the DWNP to effectively manage wildlife resources in conjunction with communities, therefore showing little political will to effectively operationalise community-based management. This recentralisation of the CBNRM programme means that 'CBNRM is no longer community-based' (Poteete 2009a: 299). The CBNRM programme has also failed to diversify its portfolio to other natural resources such as reeds and grass, through which many women and female-headed households could access benefits from direct use, particularly in the Okavango Delta. As will be shown in this chapter, wildlife-based CBNRM activities largely benefit men as the group that has traditionally interacted with wildlife within the community, and women only have control over the less economically-valued vegetation resources.

The government's philosophy of strict, centralised control over all resources is challenged in the Okavango and Chobe regions, where incompatibility between different land-use practices has yielded obvious winners and losers. Conservation and its primary beneficiaries, government institutions such as the Department of Tourism and the DWNP, and the private tourism industry, have acquired the most gains, while the majority of subsistence users of natural resource-us, especially ethnic minorities such as the Basarwa/San, have seen few benefits.

Table 4 below is a summary of the main decisions (legal instruments and policies) taken on the Okavango over time and their role in shaping access to and control over Okavango Delta resources. Some of the decisions, policies and programmes apply to the whole country but have had their main impact on the Okavango (e.g. 2008 Fish Protection Regulations), and some have been designed for the Okavango Delta specifically. Chief among these are the 1995/96 decision to cull all cattle (around 320,000) in the Delta, the construction of the veterinary fences and the accompanying

livestock disease management policies. Major policies that have significantly reshaped access to and control over natural resources in the Okavango Delta, such as CBNRM, wildlife conservation, tourism and agricultural policies have all been discussed above. The 2008 Fish Protection Regulations are the focus of Chapter 6, but fishing livelihood dynamics are introduced in this chapter.

Table 4: Major decision taken on the Okavango over time, and their effects on communities

Year	Legal instrument /	Proclamation	Main effect on Delta communities
1963/4	Fauna Conservation Act of 1961	Establishment of Moremi Game Reserve	Eviction and relocation of some communities (i.e. the Basarwa/San) and loss of access to natural resources within the reserve
1968	Tribal Land Act	Establishment of Land Boards as land authorities	Centralisation of land administration
1975	Tribal Grazing Land Policy	Establishment of private cattle ranches and establishment of WMAs	Reduced access to communal grazing land for smallholder farmers and traditional hunter-gatherer groups
1982/ 1996	Livestock disease control	Construction of veterinary fences to restrict livestock movements and control diseases	Loss of access to grazing and veld products 'beyond the fence'
1986	Wildlife Conservation Policy	Promotion of commercial wildlife use in WMAs	Allocation of a large amount of land to private safari hunting and tourism companies
1992	Wildlife and National Parks Act	Expansion of parks and gazetting of WMAs and CHAs	Reduced access due to expansion of parks/ game reserves into communal land. Promotion of tourism within CHAs
1995/96	Diseases of Animals Act (Cap. 37: 01)	Declaration of CBPP in Ngamiland District and subsequent culling of all cattle in the district; closure of the Maun abattoir	Loss of all cattle herd and draught power, social status, malnutrition and shift from livestock farming as a source of livelihood. No access to beef market/ abattoir for Ngamiland residents since 1996

1997	Ramsar Convention	Listing of the Delta as a Ramsar Site	ODMP and subsequent restrictive decisions including the promulgation of the 2008 Fish Protection Regulations
2007	CBNRM	Formalisation of *de facto* CBNRM	Recentralisation of natural resource management and loss of 65% of proceeds accruing from CBNRM activities
2008	Fish Protection Regulations	Declaration of fish as protected and introduction of licences and fees	Reduced access to fisheries resources, abolition of (most) traditional fishing methods and practices

Adapted from Magole 2009

The next section focuses on the main livelihood activities of the Okavango Delta communities and the changes they have undergone over time, as seen from the village of Seronga.

5.3 Livelihoods in the Okavango Delta: dynamics shaping access and control

Livelihoods in the Okavango region are highly diversified, and no household or community pursues a single strategy. Life in the Okavango Delta is mostly centred on the river and its various swamps, streams, ponds and floodplains, as well as the dryland. About 70% of the population resides within ten kilometres of the main channel (Government of Botswana 2001). This is where people fish, collect reeds and grass, harvest wild fruits and tubers, drink and graze their livestock, plough their fields and paddle to get from one part of the Delta to the other. On dryland, people rear their cattle, plough their fields and establish settlements. The spatial coverage of different land-use activities has also been influenced by government policies and the zoning and land-use planning decisions made by district and tribal authorities (Meyer and Bendsen 2003). Poverty is rife in all of Ngamiland District, estimated at 43% in May 2009 (UNDP 2009: 7) and clearly visible the further north one travels from Maun, the district capital. As noted in Chapter 3, the highest concentration of people is in the 'Panhandle' (the perennial part of the river) in the northern part of the Delta.

The main livelihood activities are discussed in detail in this chapter as a way of illuminating the dynamics and issues around access to and control over natural resources. The discussion centres on: farming (agro-pastoral); subsistence fishing; harvesting veldt products (and non-timber forest

resources, such as reeds, grass and wild fruits); craft production (basket weaving); and community-based tourism. Other livelihood strategies contributing to household income generation include: beer brewing; formal employment; and remittances and out-migration (in pursuit of formal employment in urban areas). Livelihoods are highly diversified to reduce risk from the unpredictable environment and other shocks such as HIV/AIDS, which is a serious problem in the Okavango, as it is in other parts of Botswana. As noted in Chapter 3, varying efforts are employed by different ethnic groups on different activities. Some groups are known for their arable farming skills, while others are known for their fishing skills.

Livelihood activities were historically shaped by, and continue to be shaped by both the physical state of the resource, the socio-economic and human capacities of different households and individuals, and policy decisions regulating use. They are also affected by changes in the ecological functions of the Okavango Delta system. Just as floods can prolong a cropping season and present opportunities such as abundant fishing, they can also be detrimental to agriculture and pose a risk of crop loss if they do not recede on time. Wildlife abundance presents opportunities for community-based tourism and other forms of wildlife utilisation not readily available in other parts of Botswana, but wildlife also poses a threat to life and limb as well as to property (domestic animals and crops) in the Okavango Delta area. Struggles, therefore, are over minimising the negative impacts of environmental change, as well as maintaining opportunities for livelihood improvement. Policies and institutions (both traditional and modern) mediate these processes and either empower or constrain individuals' and households' abilities to cope with change and to seize opportunities. Appendix 2 is a table showing the environmental factors shaping the main livelihood activities in the Okavango Delta, and responses to them.

In a dryland ecosystem, rainfall is the most important determinant of the status of the natural resource base. Rainfall in the Okavango Delta, as in other parts of Botswana, however, is characterised by high variability. Droughts occur often, rains are unpredictable, often come late, and sometimes they are not enough to support crop vegetation and growth. This has important implications for the productivity of vegetation growth. If peak rainfall periods occur late in the season, low winter temperatures and frost (usually in June, July and August) may kill plants before they fully mature (Sallu et al. 2010). This has detrimental knock-on effects on the production of human foods, such as wild herbs and fruits, wild medicines and plant-based materials used as building products and for crafts, and on rain-fed cultivation and the availability of grazing and

browsing resources for cattle and wild animals (Ibid). Local people respond to these changes in different ways, depending on their capabilities and the resources available to them (e.g. labour, income, institutions) and the general vulnerability or resilience of households.

As noted in Chapter 2, the most important livelihood activity in the Okavango Delta is farming, although income from farming itself is low compared to cash earnings, remittances and social benefits (Mendelsohn et al. 2010: 119). Cultivating crops and keeping cattle, goats and other livestock are often complemented by fishing, gathering wild fruits, harvesting grass and reeds for subsistence, and craft production of baskets from palm leaves and wooden artefacts for the market, where markets exist. As seasonality plays a significant factor in resource availability (grass, rainfall, wild fruits) and the productivity of certain livelihood activities (farming, fishing), households have to be flexible enough to adapt their livelihoods in response in order to spread risk and deal with climate and environmental uncertainty. As a result, a farming household may also engage in fishing when the opportunity arises (e.g. when the floods are good). Equally, a fishing household may concentrate on farming and reduce fishing for a time if the rains are good. This flexibility means that many households choose not to specialise in one particular activity, but instead in a number of activities to varying degrees at the same time. Poorer households are more vulnerable, and some fail to build basic livelihoods, becoming dependent on government social protection programmes. Mendelsohn et al. (2010: 119), on farming in the Okavango Delta, state:

> These farming strategies are typical of a 'low input, low output' system. For example, farmers seldom invest in, or take measures that many outside observers would assume as necessary for better production. Few farmers thus add fertilisers, compost or manure to improve soil fertility, and weeds are not removed as often as they may be. As a result, crop yields are low, so too are off-take rates of livestock that are often allowed to graze freely, when herding might provide better forage for the animals.

5.3.1 Agriculture: Livestock rearing and arable farming

A typical farming household with a male head engages in cultivating crops and keeping livestock as a primary activity, with the latter being primarily the man's prerogative. According to research by Barnes et al. (2008: 330), the average size herd for a typical small-scale, livestock-keeping model on the western and southern fringes of Ngamiland District (where the Herero and Tswana pastoralists are found) is about 35 cattle and a few goats. As indicated in Table 4, CBPP (cattle-lung disease) was declared in the Okavango Delta in 1995, and all the district cattle were eradicated to prevent the spread of the disease to other parts of Botswana. Following this, cattle ownership in the Okavango declined and became even more skewed. Many of the poor farming households in the

Seronga area did not own cattle, and those who did owned fewer than 35 cattle. Nationally, the medium-scale unfenced cattle-post model would have an average herd size of between 40 and a few hundred, depending on the economic status of the household.[93] Both these systems depend on unfenced grazing land that is effectively open-access, and on public sources of water, such as the river, for watering the livestock. Where surface water is lacking, 20 or so households may share the use of one borehole, which they collectively maintain. In the Seronga area, the average size of a medium-scale model is significantly fewer than 700 cattle, and farmers falling into this category would be considered large-scale farmers. In fact, very few households own more than 100 cattle. The medium- to large-scale fenced commercial ranching model is not common in Ngamiland, and there are fewer than ten farms of this type. These range between 4000 and 7000 hectares in size (Mendelsohn et al. 2010: 121), but can be as large 10,000 hectares and even larger in other parts of Botswana (Barnes et al. 2008: 331), and usually have access to a private borehole. Even though these farms were allocated as leaseholds, they have effectively become private property, and many of the owners are not Ngamiland residents (Mendelsohn 2010: 122). This model has primarily been promoted by agricultural policy with its emphasis on beef production, and, according to Barnes et al. (2008), is a relatively unproductive model, significantly dependent on government subsidies in order to function properly. This strategy has mostly benefited the cattle elite, who, as argued in other parts of this thesis, are also the political, business and bureaucratic elite. Due to the Okavango Delta being located far from markets, which are in the south of the country.[94] most farmers in the area do not pursue the commercial model, and often lack the resources to do so.

Households without a male head often own even fewer or no cattle, but may own a few goats used for milk and meat. As a result, many female-headed households depend on arable farming as a primary livelihood activity and complement this by harvesting natural resources such as grass, reeds and wild fruits, or fishing. An average household also partly relies on formal employment, or remittances from other members of the household who migrate to urban areas for jobs. Grandmothers often play the important role of raising grandchildren while engaging in farming and other household activities, as exemplified by Ms. Kelatlhegile Ndozi's household:

> *Mma Olebogeng'* [i.e. Olebogeng's mother] *is a 47-year-old unmarried mother of seven, one male. She has never attended school. Her parents fished, grew crops and kept a few cattle, but she does not own cattle herself as they were all eradicated during the cattle-lung disease outbreak in 1995/96. She therefore hires a few cows in order to cultivate her land, which is just one hectare. All the*

[93] Barnes et al. (2008: 331) suggest an average of 774 heads of cattle under this model for the southern and western parts of the Okavango region.
[94] The Maun abattoir has been closed since 1995 due to an outbreak of cattle-lung disease.

> *children help at the farm with weeding. Because she is unable to sustain her family by cultivating just one hectare of land, she also cuts and sells grass, and weaves baskets to sell to tourists. However, she struggles to sell her products and when they accumulate she is often forced to reduce the price. Her parents taught her how to steer a canoe, and she in turn taught her only son, and this is how she is able to access islands to cut grass and reeds. Having no husband and only one male child means she either has to perform activities that are normally performed by men, such as ploughing the fields and building houses, or pay someone to do them. She is, however, able to send her children to school by engaging in these different activities* (Notes from the field, discussion with Ms. Ndozi, 25 September 2008).

Female-headed households (about 55% in the Okavango region) are, therefore, generally poorer than male-headed ones, and compete against richer farmers for resources such as land, grazing pastures and water. Lack of cattle means that they plough less land. As traditional institutions that controlled the use of grazing pastures, particularly the role of the chief, have fallen out of use over time, competition for these resources is high, and smallholder farmers are generally placed at a disadvantage.

5.3.1.1 Livestock rearing

Livestock plays an important role in the lives of many rural households as a source of meat, milk, draught power, bride price or bride wealth, a store of wealth and income, transport, and for slaughtering during culturally important ceremonies such as weddings and funerals. Livestock found in the Okavango region ranges from small stock such as goats and sheep, to larger farm animals including horses, donkeys, mules and cattle. As in other parts of the country, cattle are of significant value to every household, not only useful for the purposes mentioned above, but also as a social status symbol (Sallu et al. 2010). Despite this, fewer and fewer households in Botswana own cattle. Out of an estimated national herd of about 3 million in 1997, around 50% was owned by less than 5% of the population (Darkoh and Mbaiwa 2002; Malope and Batisani 2008). Table 5 below shows the percentage of cattle ownership in the traditional sector in Botswana over the years.

Table 5: Cattle ownership in the traditional sector between 1980 and 1997

Year	1980	1983	1986	1987	1995	1997
Households with no cattle	27.88	28.90	36.49	38.51	33.13	45.91
Households with 40 cattle or fewer	51.38	54.15	49.58	46.21	52.54	41.74
Households with 40-100 cattle	14.00	12.56	9.04	10.21	8.98	8.17
Households with more than 100 cattle	6.75	4.39	4.08	4.99	4.54	4.18

Source: Malope and Batisani 2008

A survey conducted in 1976 found that cattle ownership in Ngamiland was skewed along tribal lines (Campbell 1976: 171). Among the BaTawana, only a few rich families owned cattle, while all Herero owned cattle, and of the Ngamiland herd, 30-40% belonged to this tribe. Only one in five Yei families owned cattle, and about 80% of all Yei cattle were owned by less than 10% of the Yei cattle-owning population. Of the Tawana-owned cattle, only one family in three owned cattle, and over 60% of Tawana cattle were owned by 4% of the Tawana cattle-owning population. A little more than 50% of all families owned small stock, such as goats and sheep. During my fieldwork, farmers reported no knowledge of *mafisa*, a traditional practice that was allegedly popular among the Tswana tribes as an initiative to give poorer families an opportunity to own cattle and have access to milk and draught power. Under this cattle loan system, richer families lent one or more cows to a poorer family in order to raise calves; the borrowed cattle would later be returned to the owner. The cattle owners were usually Tswana and the recipients would generally be the less well-off groups such as the Basarwa (Barnard 1996). Although this practice ensured that other households had access to cattle, this system also asserted domination of the wealthy over the poor. Only a few instances (four) of *mafisa* were noted during a 1976 study in Ngamiland (Campbell 1976: 171). This system, as with many other social institutions, is now non-existent in most of Botswana, and farmers rely on the cash economy (Kgathi et al. 2004).

The government has had to adopt strict livestock disease management policies for the Okavango Delta region, partly to safeguard the national herd and the Europe-bound beef, most of which is produced in commercial ranches in the Ghanzi District, south of Ngamiland. As noted in Chapter 3, livestock diseases have always existed in the Okavango Delta, and the 1995/1996 outbreaks of Contagious Bovine Pleuro-Pneumonia (CBPP) or cattle-lung disease and foot and mouth disease (FMD) have necessitated even more restrictions. Between February 1995 and February 1997, the Government of Botswana killed the entire Ngamiland district cattle herd (estimated at 320,000)[95] as a measure to eradicate the outbreak of CBPP and contain it from spreading to other areas, especially the beef export-area of Ghanzi, where most commercial ranches are located. The government estimated this to be about 12% of the national herd (Government of Botswana 1997, cited in Darkoh and Mbaiwa 2002: 156). According to Thomson (2005: 19), this cost the Government of Botswana a total of US$97.5 million, 'only a little more than the gross annual income from beef

[95] 'The irony is that the stamping out policy, among other major objectives, seems to have been instituted to preserve Botswana's beef exports to the European Union despite the fact that CBPP is very unlikely to be transmitted by beef' (Thomson 2005: 20).

exports'. This move saw many households leaving farming altogether, or significantly reducing their land under cultivation as they had no access to this important farming input (Boonstra et al. 2001; Meyer and Bendsen 2003). Many households were also left destitute, and participation in the social welfare services, especially the Food Ration Programme, increased by 44% for Ngamiland East (Boonstra et al. 2001). Some of the Seronga community, however, questioned the unilateral decision by government to kill all cattle, arguing that not all cattle suffered from the disease. In some cases they even denied the existence of the disease:

> *We do not know this CBPP disease that they talk about, we have never seen it; our cattle did not suffer from it* (Focus Group Discussion with farmers, Kweqana, 24 September 2008)

Some saw it as a strategy to appease conservationists and those in the tourism industry by eliminating cattle production in the Okavango region, and also to privilege other productive areas for beef export, especially the Ghanzi District, where a number of senior government officials own ranches.[96] As a large-scale cattle farmer in Seronga noted:

> *The government has always wanted to keep the Okavango cattle-free. We are being used as a buffer for other parts of the country; we are the only ones who have to bear the costs of these policies* (Large-scale cattle farmer (male), interview, Seronga, 25 September 2008)

This lack of trust in government policies towards the Okavango region has gradually intensified over the years since the construction of veterinary cordon fences, starting in 1982. In order to secure its place in the European Union (EU) beef market, Botswana has put in place high standards of veterinary hygiene and disease management, as required by the EU.[97] This has been achieved through the construction of a network of veterinary cordon fences and quarantine camps that divide the country into disease control areas, between which livestock movements are restricted (Darkoh and Mbaiwa 2002; Mbaiwa and Mbaiwa 2006). There are two types of veterinary cordon fences in Ngamiland District. Those described above are known as 'FMD fences' and/or 'CBPP fences', after the 1995/1996 CBPP and FMD outbreaks, and separate cattle herds from each other (i.e. between districts). The other type is known as 'buffalo fences', constructed to separate cattle from wildlife, especially foot and mouth-carrying buffalo (hence the name). The fences run along the whole northern (Northern Buffalo Fence) and southern (Southern Buffalo Fence) parts of the Okavango

[96] The current Minister of Agriculture is a commercial farmer from the Ghanzi District. Many white cattle ranchers also settled here prior to independence. The former President (Sir Ketumile Masire) is also said to own farms in this area. The Ghanzi District, along with neighbouring Kgalagadi District, has the highest numbers of Basarwa populations, many of whom historically and still provide farm labour to the cattle ranchers.

[97] 80% of Botswana's beef is exported to the EU (Motsu 2008), and in 2009 this amounted to 10,420 tonnes (European Union 2009).

Delta and have succeeded in keeping buffalo populations within the inner parts of the Delta, away from the cattle on the fringes. The buffalo fences have been criticised by conservationists who argue that the fences disturb natural wildlife migratory routes. Wildlife deaths have been linked to these fences as they reportedly fence wildlife in during drought times, blocking access to water sources (Mbaiwa and Mbaiwa 2006). Farmers also criticise the fences for blocking the movement of their cattle to better grazing areas.

Figure 8: A sign by the Department of Animal Health and Production at one of a number of 'FMD gates' in the Okavango Delta region. During outbreaks these gates are also used to control not only movement of livestock products but also spraying and dipping.

After the 1995/97 culling, cattle ownership became even more skewed than before (Boonstra et al. 2001: 881), and many households lacked draught power, milk and meat and their primary source of income. The government put in place a compensation programme to replace some of the Okavango cattle herd, offering 100% cash compensation, 70% cash / 30% replacement animals or 30% cash / 70% replacement animals. However, only 13% of the households whose cattle were destroyed chose the '30% cash / 70% cattle' compensation option; 24% took 70% cash compensation, and 58% elected to receive 100% cash compensation (Mullins et al. 2000: 341). Mullins et al.'s (2000: 341) research states that even though 88% of sampled households declared their intention to rebuild their stock, only a small number actually opted to do so. It further notes that most of the cash received as compensation went towards meeting other household needs. A number of farmers also noted during my fieldwork interviews that most of the adult men now engaged in commercial fishing had used the funds from the CBPP compensation packages to cover start-up costs of

commercial fishing activities.[98] Commercial fishers also confirmed this to be true.[99] Others noted that owning cattle nowadays is risky as *'one never knows when the government will decide to kill them'.*[100]

The Okavango cattle herd is slowly recovering, although the new stock is said to be less resistant to drought compared to the 'pure Tswana breed'. A senior veterinary officer noted:

> *The loss of genetic material that the cattle had was lost and has not been replaced; this has affected cattle production in the Okavango significantly. Most of the new breeds found here cannot handle the harsh Okavango conditions and die easily during droughts* (Interview, Seronga, 5 February, 2009).

The Ngamiland District herd was estimated to be fewer than 200,000 in 2002 (Meyer and Bendsen 2003). Some cattle quarantining and culling still continues due to periodic outbreaks of foot and mouth Disease (FMD).[101] Locals contest this on two bases: firstly, that their cattle do not reach the abattoirs anyway, so why should they lose their cattle whenever an outbreak occurs;[102] and secondly, since cattle contract the FMD virus from wildlife, why is wildlife (i.e. buffalo) that crosses the fence into communal areas not killed, but driven back? Locals argue: *'the government has shown us that wildlife is more important than our livelihoods, it is because wildlife makes the government rich, but cattle are important to us too, we depend on them for everything*'.[103]

On the other hand, government officers from the Department of Animal Health and Production (DAHP) and the Department of Wildlife and National Parks (DWNP) see no other option but to resort to these seemingly harsh decisions in order to safeguard both the beef market and the tourism industry, both of which are important for the national economy. As noted by a senior officer in the Department of Animal Health and Production:

> *FMD* [foot and mouth] *is a disease of national economic importance, we have to protect our beef market in the EU, so we have to put measures in place to ensure that the market is protected, and unfortunately in the Okavango it means killing cattle that cross the buffalo fence and graze alongside wildlife. Even though farmers here do not really access the BMC* [Botswana Meat Commission]

[98] Focus Group Discussion with farmers, Kweqana, 24 September, 2008
[99] Focus Group Discussion with fisherfolk, Seronga, 20 September 2008
[100] Focus Group Discussion with farmers, Kweqana, 24 September 2008.
[101] An outbreak in the Okavango in June 2008 spread to the Ghanzi District by October 2008, but was effectively contained by November 2008. The government committed about P25 million (about US$4 million) to contain the Ghanzi outbreak. Fewer resources were, however, allocated to the Okavango outbreak.
[102] The Maun abattoir was closed in 1995 due to the CBPP outbreak. In November 2009, the Botswana Meat Commission announced that it would reopen the Maun abattoir in April 2010, after 13 years of closure. Beef from Ngamiland District cattle will however only be sold locally and not as fresh meat, but as heat-treated canned meat (Smarts 2009).
[103]Elderly man speaking at a *Kgotla* (village assembly) meeting addressed by the Minister of Presidential Affairs and Public Administration, 5 September 2008, Seronga.

> *abattoirs, we have to manage the disease as if they do, because the disease may spread to Ghanzi area, as it did recently. If the EU inspectors come and do a routine inspection and find any flaws in our veterinary hygiene and disease management measures, the Botswana beef will lose its market and this will affect the foreign exchange proceeds that the government earns from this* (Senior veterinary officer, interview, 5 February, 2009).

The Minister of Agriculture, a large cattle ranch-owner from Ghanzi, declared the 2008 FMD outbreak in Ghanzi a 'national disaster'[104] and called for a strengthening of FMD management measures all over the country. Such statements, however, had never been made with reference to the FMD outbreaks in the Okavango region. This complex intermingling of personal interests and official government decisions is characteristic of the political economy of Botswana, and transcends policy-making. As Picard (1980: 349) concludes in a study of Botswana's TGLP policy:

> …national and local-level bureaucrats who set the priorities of public policy choices are also a dominant, if not the dominant, socio-economic elite of the country. This would suggest that those who are formulating and implementing a new policy may have the most to gain from the policy that is under consideration.

Others (e.g. Mendelsohn et al. 2010) argue that the importance of farming is decreasing in Okavango Delta in any case, while other economic activities are becoming more important (e.g. community-based tourism), and that dependence on land by local communities maybe exaggerated. They therefore argue: 'Off-farm income is also a product of tourism and conservation enterprises, the very activities that supposedly limit the economic health of local households' (p.124).

*5.3.1.2 Dryland and flood-recession (***molapo***) farming*

Despite many challenges, and its decline, agriculture remains a significant activity in the Okavango. Cattle are an important input in arable agriculture as they provide draught power, and many households cannot produce enough food without them.

There are two types of arable farming in the Okavango Delta: floodplain recession agriculture, locally known as *molapo* farming, and dryland rain-fed agriculture. The former is traditionally practised by the BaYei, but some groups may also practise it where an opportunity exists. *Molapo* farming fields are located close to or on the floodplains or river channels where soils are moistened by seasonal flooding or draining of water onto low-lying ground, supplemented by rainfall (Meyer and Bendsen 2003). According to Magole and Thapelo (2005), *molapo* farms can be divided into two categories, namely wet and dry *molapo*. Wet *molapo* receives moisture either from the rising ground water table or from flooding, and can be cultivated independently of rainfall. Dry *molapo*,

[104] Radio news broadcast, 3 February 2009.

on the other hand, is in areas no longer receiving water from the flood, which are similar to dryland areas in that they are dependent on rainfall.

Molapo fields are normally used for crops that require a lot of moisture, mainly maize. Pumpkin and beans are also sometimes planted on *molapo* fields. Farmers in the Okavango area mainly grow cereal crops such as sorghum, millet and maize and secondary crops such as beans, pumpkins, groundnuts, watermelons, melons, peanuts and sweetreed in varying quantities, as preferred by the different ethnic groups, and as rainfall patterns allow (Demotts et al. 2009). Dryland farming is practised on dryland and depends entirely on rainfall. Traditional arable farming is an extensive system with minimal input, and occasional gains. Researchers have found that of the 48,900 hectares of land cleared for cultivation in Ngamiland, 75% consists of dryland fields, while 25% of fields are in temporarily inundated floodplains (*molapo* fields) (Meyer and Bendsen 2003; vanderPost 2009).

Access to land for dryland farming is relatively good as every citizen above the age of 18 is entitled to a free piece of land from the Land Board for farming purposes, and this is owned in perpetuity. Almost everyone is in possession of a piece of land for agricultural purposes, of varying quality and size, but this ownership is largely skewed towards men, older women and male-headed households. This is not the case with the Basarwa communities, however, as most do not practice arable farming (Magole 2009). According to a senior officer in the Seronga Sub-Land Board (which serves the entire eastern part of the Okavango Panhandle), during the 2008 land allocations, 180 land plots were allocated for residential purposes, mostly to the young; 230 were allocated for ploughing for arable farming purposes, mostly to older people; and 13 were common law requests, for business purposes. Both men and women engage in arable farming, but this is usually done by adults, as the younger generations opt for formal employment in urban areas, and many have out-migrated to places such as Maun for jobs. Despite an increasing number of female-headed households, many women, especially younger unmarried ones, do not own land, as culturally this can undermine their chances of finding a husband.[105] As noted by the Chairperson of the Seronga Sub-Land Board:

> *Women are still left behind in terms of land ownership. Most land is owned by men, be it for residential or ploughing purposes. Married women particularly do not own land as according to custom and tradition, they are part of the husband's household, and therefore cannot own property outside the home…* (Senior land board officer, interview, 6 March, 2009).

[105] Technical officer, Seronga Sub-Land Board, interview, 14 October 2008. Issues around household gender relations are discussed later.

A young Hambukushu woman, Makhiana Moabi, also noted:

> *I am not married, so I do not have land, I plough a small patch on my uncle's fields to plant maize for my household* (Interview, 18 September 2008)

Land ownership for *molapo* farming, on the other hand, is regulated by a set of different tenure rules. Historically, land for *molapo* farming, as with all land, was controlled by the traditional leadership, chiefs. As noted above, since the formation of the Land Boards in 1968, chiefs do not legally have direct control over land. However, they remain influential figures in land management, and the Land Boards often rely on them for advice (Lekorwe 1998), particularly for land inheritance dispute settlement and resolution. As *molapo* fields are located on common land, the Land Board does not officially control this land as it *'belongs to no one'*[106] and is therefore outside its jurisdiction. Land Boards do not allocate *molapo* fields, but simply respect traditional rights to the extent that they even tolerate self-allocation (Magole and Thapelo 2005). People who own *molapo* fields therefore do not carry any legal Land Board certificates and hold no modern use rights, because traditional rights in this case are not eligible for government administrative purposes (Arntzen 2005). Those who continue to farm this land do it out of historical habit and practice, and at their own risk; they are not eligible for government agricultural subsidies or compensation like other dryland farmers. Currently a vacuum exists in the administration of this land, as neither modern land-use rights in the form of common law nor communal rights apply to it, and this may act as a disincentive for this farming system. Research by Wilk and Kgathi (2007) shows that even though in theory women and men have access to land, with regard to *molapo* fields, male heads of households have stronger tenure positions than women. Furthermore, due to their position close to the river and on floodplains, there is considerable crop damage from livestock and wildlife that move in to graze and drink in the area, and where wildlife destroys crops, compensation from the Department of Wildlife and National Parks is insufficient to cover the costs.[107] The Department of Water Affairs has also reportedly banned farmers from building the traditional earth and grass bunds that they used to build to divert water from their fields, and so they sometimes lose crops to rotting (Magole and Thapelo 2005). The Department of Water Affairs claims that the practice disturbs the natural course of the flood, though the significance of these bunds can be questioned, considering how river channels divert naturally due to sediment deposits and blockages in the

[106] In the village of Tubu, an island in the south-western part of the Okavango Delta, about 94% of these pieces of land are inherited (Magole and Thapelo 2005)
[107] Male *molapo* farmer, interview, 22 September 2008.

system (Ibid). In early 2008, the Okavango Delta Management Plan (ODMP)[108] made recommendations that no developments be allowed within 200 metres of the river. In the past, through the Okavango Panhandle Management Plan (OPMP) that was never implemented, similar to the Okavango Delta Management Plan (ODMP), a 500 metre buffer zone was created along the river. As the Land Board Chairperson explained:

> *This meant that already-existing* molapo *fields should not be extended to protect the floodplain areas from soil erosion. Another recommendation made was that lodges in the Delta should not be extended. In the process of all this the ODMP started and the Land Board participated by managing the land-use component. The ODMP also froze applications for tourism activities. In 2008, all applications for tourism businesses were rejected pending an EIA report on the Ramsar Site to determine the carrying capacity of the land. The 500 metre buffer zone was reversed to 200 metres to improve access to the river* (Mr. Bonang Karundu, Chairperson of the Seronga Sub-Land Board, interview, 6 March 2009)

Although it remains a practice that some entire communities depend on as their only form of farming (e.g. around Tubu on the south-western side of the Delta),[109] it is uncertain what will happen to *molapo* farming, as policy does not directly address it. The 200 metre rule has not yet been institutionalised, and communities like that of Tubu continue to practice *molapo* farming. Tourism also competes with communities for riverfront land as sites for safari camps and lodges. Even though the 200 metre rule applies to floodplain agriculture, it is difficult to enforce for tourism activities. Land for tourist facilities (safari lodges and camps) is allocated by the Land Board under common law land rights (leasehold), and is closely controlled by the Department of Tourism, a central government authority. As noted by a Land Board technical officer in Seronga, the Department of Tourism features prominently in the allocation of land for tourism purposes:

> *The 200 metre rule has been difficult to enforce, and is causing a lot of conflict between the Land Board and the Department of Tourism. Most of the tourism facilities are located less than 200 metres from the river and all lodge owners want to build right on the banks of the river, and for political reasons it has been difficult to reject these applications. People in the tourism business are very influential* (Interview, 14 October 2008).

Local community members have also expressed concern about these 'discriminatory' land management practices. As an elderly man in his eighties noted:

> *These days it is hard for one to say they own land. The way they* [the government] *are managing the Panhandle is very discriminatory. White citizens and expatriates are given prime riverfront land that we are not allowed to use. When a local requests such land they are told it is not available. This is*

[108] See Chapter 3. ODMP is a management plan that a government is required to put in place after declaring a wetland a Ramsar Site.

[109] During high floods in 2004, the Ngamiland District Council made plans to relocate the floodplain farming communities of Tubu, but the communities declined, noting that they welcome the high floods as they improve their crop gains. The more vulnerable households did, however, lose a lot of their crops.

> *wrong as these resources belong to us* (Focus Group Discussion with farmers, Seronga, 22 September 2008).

For those who own land and are able to cultivate it, different challenges are faced. Dryland farming is vulnerable to variable and shorter rainfall patterns. Most farmers reported that the rainy season is now shorter than in the past. Many also lose some, or all of their crop, to raids by wildlife, especially elephants. Farmers therefore have to adopt flexible strategies in order to reduce risk. While some, such as intercropping and mixed cropping, have always been practised, new strategies have had to be adopted as new challenges have arisen. Some farmers reported having to bury watermelons to keep them from being eaten by elephants;[110] others harvest their crops early and dry them on stalls at home, away from crop raids and pests such as birds;[111] some have sought assistance from government programmes such as the 'chilli pepper strategy' encouraged by the Department of Wildlife and National Parks and funded by the GEF Small Grants Programme through the UNDP (i.e. planting chilli peppers around the boundary of the crop fields to deter elephants from approaching). During fieldwork, observations were made of farmers tying cans and plastic bottles on the field fences to create noise when the fence is touched by elephants. One noticeable strategy is to relocate to the farm for the whole cropping season, from the time crops start to germinate until the harvest is over.[112] Farmers who fail to do this may lose a whole year's crop in one night. Other farmers depend on social relations in order to deal with the challenges of dryland farming:

> *Matota Teko is a 33-year-old man who belongs to a family of devoted farmers who have planted six hectares this year. He says his parents form a group with some of his uncles and aunts and share their labour. While men spend time renewing the field fences, women would later help with the weeding and spend time at the field chasing birds away. Men also help with chasing elephants away by shooting into the air, as only men own guns. At the end of the harvest season every household gets what is proportional to the time and labour invested. His father has a job at the local clinic, so his mother is the one who spends the most time at the fields. Their crops are doing well, and his mother gives me a tour of one field, where I notice she has intercropped sorghum with maize, millet, beans, melons, pumpkins, sweetreed and watermelons. She tells me it is because the rains were good so they had to maximise on this opportunity as it might not come again* (Notes from the field, 5 March 2009).

Many farming households, however, do not have the kind of support that the family mentioned above has access to, especially those headed by females, young or old. Even when they do own land, many are unable to farm it:

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[110] Matota Teko, young male farmer, interview, Seronga, 4 March 2009.
[111] Olebile Morotse, older female farmer, interview and observation, Kweqana, 1 March 2009.
[112] Observations and discussions with several community members.

> *One old woman with a patch of farming land just outside Seronga has only one son who has relocated to Maun for a job; she takes care of her only grandson who is just an infant. She is poor, elderly and is also a widow in her late seventies. She has no job, lives in a reed shack and owns no livestock. She remembers her late husband, who was a fisherman of note. She is now destitute and receives monthly food rations from the government through the Office of Social and Community Development in Seronga. She would like to farm in order to feed herself and her grandson, but lacks the capacity to do so. She states: 'I own no cattle and have no money to hire anybody's cattle or donkeys to plough for me. I cultivate a small piece of land using a hoe. My harvest is usually not enough to feed me for more than a few months. I have to depend on monthly rations to survive; this is usually not enough to last a month'* (Shomana Shizurwa, focus group discussion with farmers, Kweqana, 24 September 2008).

There are many households like that of Mrs. Shizurwa, particularly among the poorer Basarwa communities living in marginal areas on the fringes of the Delta, far from amenities. O'Laughlin (1998) argues that there are complex reasons why there are a significant number of poor female-headed households, ranging from marriage losing its practical value in Botswana, to women not assuming that marriage would happen and therefore choosing not to postpone childbearing, to the pattern of the changing lives of men and the processional nature of Tswana marriage, which involves a series of steps, including bride-wealth exchanges, rather than a single moment (Ibid). She notes that, for these reasons, many men never establish their own cross-generational households, and have a peripheral relationship with their children. Molokomme (1991, cited in O'Laughlin 1998: 21) states: 'when children remain outside of a marriage process, they are not affiliated to their fathers' lineages; they remain legally within the lineages of their mothers, though not always with status equal to those affiliated through their fathers'. HIV/AIDS has also complicated household composition and labour dynamics. Migration for better jobs in urban areas means that often women are left behind with their grandchildren, but receive remittances from their daughters and brothers. Meinzen-Dick et al. (1997: 1311) argue: 'the types of households in a given area need to be observed and questions asked to determine whether they are different from one another, controlling for resource level or other factors'. They add:

> Differentiation among female-headed households can be on the basis of *de jure* versus *de facto* status; on whether remittances are forthcoming from absent household members; their status as widows or divorcees; whether they are in a matrilineal or patrilineal inheritance system; as well as by the sources of variability such as class and caste, landowning versus landlessness, the marriage order and others.

Women's position in farming systems in the Okavango Delta therefore faces multiple challenges, although many female-headed households depend on arable farming alone, and have less chance to access other livelihood activities. Although farming has always been an unpredictable activity, it is more so now due to non-rainfall related challenges. Other than crop raids, lack of productive labour and draught power are some of the main concerns in arable farming in many parts of the Okavango

Delta. Although the government provided free donkeys as replacement draught power after the CBPP culling, many farmers do not use them as they are said to require a lot of training as draught animals, and donkey meat is also not traditionally consumed in Botswana. They are therefore mostly used as transport, e.g. for pulling carts. Access to modern farming equipment (tractors) in this area is lacking as people are too poor to hire them and because many crop fields have trees and stumps on them, which cannot be removed for cultural reasons: *'they guard the fields'*, a young male farmer noted.[113]

Seronga and several other settlements are located in the Okavango Delta's 'human-elephant conflict' zone, and crop raids by wildlife, particularly elephants, are one of the biggest concerns for farmers in the area. During one of the focus group discussions, I asked an elderly woman who had kept quiet for a long time: *'How is farming?'* She extended her arms with her hands facing up, gestured '*nothing'* and broke down. One of the other respondents had to explain on her behalf that she had recently lost her whole crop to elephant raids:[114]

> *Elephants are of course the main problem as they raid crops every year and some farmers can lose a whole crop if they do not relocate to the farm. Farming in this area requires a lot of commitment. One cannot plough their fields and live in the village; you have to relocate to the farmstead or fields for the whole cropping season and return only after the harvest. Elephants come in the middle of the night and in the early morning. When they raid the fields they open up the way for livestock and other wildlife such as buffaloes and a combination of these can be disastrous* (Mr. Gaesemodimo Xhokwhe, in his eighties, focus group discussion with farmers, Seronga, 22 September 2008).

In late 2008, the government announced a new scheme, the Integrated Support Programme for Arable Agriculture Development (ISPAAD), through which farmers could access farming equipment and cash rewards for cultivating their fields, as well as financial assistance to fence their fields. Implementation of the programme in the Seronga area and many parts of the Okavango Delta was delayed, and by the end of the 2008/09 cropping season, only treated seeds had been made available. A few farmers were reported to have registered with the Department of Crops' local extension office for compensation for ploughing their fields. When I went back to Seronga in January 2010, the ISPAAD programme had still not fully reached the eastern side of the Panhandle, and farmers were relying on their old strategies to continue farming.

The traditional farming system amongst poorer Okavango Delta households is generally low input, and therefore yields very little. Much of this is due to the risks and shocks associated with the local

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[113] Matlotla Teko, interview, Seronga, 4 March 2009.
[114] The Botswana elephant herd constitutes about 25% of the entire African herd, and is located in northern Botswana only.

climate, ecological conditions and land-use practices. As a result, only about 10,000 of 48,900 hectares of cultivated land in the Okavango Delta is used in a given year, and the remainder is abandoned or left fallow (Mendelsohn et al. 2010: 118). Many farmers resist using improved methods, as these often require additional labour. For instance, one farmer informed me that she chose not to use free improved seeds (beans) supplied by the government because they ripen too quickly and therefore fall off the pods while she is busy with other activities such as weeding. Others are reported to collect these free inputs only to feed them to their chickens. Because subsistence farming in the Okavango Delta is a particularly high-risk activity (e.g. crop raids by wildlife, low or failed rains), many farmers choose not to invest too much effort (labour and inputs) in farming. In particular, the loss of cattle has affected many households' ability to farm, and has significantly reduced their income security. As one farmer noted:

> *A cow is the life of a Motswana. Since the 1995/96 CBPP cattle eradication, the state of the rural economy has declined. People do not have security assets and have become destitute.*[115]

Institutions for regulating the use of land for activities such as grazing are either not functioning or non-existent. As the former IUCN Chief Technical Advisor to the ODMP project noted:

> *Local knowledge and traditional practices have fallen out of practice, but have not been replaced by modern ones that actually function. Where the modern ones exist, they are not enforced. As a result, a vacuum is left where both practices are either not working or failing. This poses challenges for sustainable management of natural resources.*[116]

During dry periods there is a concentration of livestock in certain areas, especially close to boreholes, and degradation is often reported. Competition for grazing is therefore high, but those with the resources to move their cattle to other areas do so. This, however, is usually impossible because of veterinary and buffalo fences, as well as proximity to wildlife areas where cattle are not allowed and may also fall prey to predators. Those whose cattle-posts are closer to protected areas do not have the opportunity to fence their fields due to elephants, and many lack the resources to do so. Some farmers have private holdings to which they can relocate their cattle during periods of low availability of grazing pastures and water, but also have access to communal grazing areas. The smallholders therefore face unfair competition. Herding has also fallen out of practice, and livestock often wanders off and falls prey to predators or livestock thieves. Women in particular are vulnerable to loss due to theft. Arable farming, especially *molapo* farming, is also a high-risk practice, but is neither legally nor customarily regulated. Owners do not have official land rights for

[115] Large cattle farmer and village elder, interview, 25 September 2008, Seronga.
[116] Dr. Eliot Taylor, interview, 15 June 2009, Oxford, UK.

these plots, and therefore cannot get compensation for crop damage by wildlife, or qualify for government assistance. The failure of the Land Board to address this gap is, therefore, one of the main challenges that this farming practice faces. As a result of these factors, subsistence farming remains a high-risk, low-return activity that is becoming less and less important for generating household income. 'For these reasons, it is impossible for farmers to earn reasonable amounts of money because of low levels of production, and because market opportunities for surpluses are limited' (Mendelssohn et al. 2010: 119). Challenges for this sector remain, and are increasing, and future developments will have to tackle the issue of what kind of agricultural land use is appropriate for the Okavango Delta region, as the lives of many rural residents are tied to cultivating land and keeping livestock.

5.3.2 Non-timber forest products (NTFPs)

The Okavango Delta holds a rich variety of vegetation products that are seasonally and permanently available, both in water and on land. Wild foods, such as fruits and some plants (usually tubers and roots), comprise a cheap source of nutrition that complements the diet of many households, particularly during the hungry season (i.e. the ploughing season). The Basarwa still rely heavily on wild plants for traditional medicine (Maida et al. 2008; Margoles 2009). As Campbell (1976: 170) notes, in the past many plants were used as medicines, some for religious purposes and others for the cure and prevention of sickness. Most of these wild resources are usually collected by women and children for their households; some are consumed as food, some are used for brewing beer, and many others are used for making household materials, farming and fishing equipment and for the construction of different types of structures (Mmopelwa et al. 2009).

The expansion of the tourism industry has facilitated a boom in craft production in the Okavango Delta, and women in particular have taken up this opportunity to earn money through basket weaving and selling reeds and grass. Growth of this hitherto traditional practice has been facilitated by the provision of marketing support from NGOs and private companies (Bishop and Scoones 1994). Men historically used wood and other such materials found on land and in water for making useful household materials such as wooden sledges/sleighs and canoes (*mekoro)*, popular in the Okavango for fishing and river navigation purposes, and also popular with tour operators and tourists alike. Due to many tree species being protected under CITES, men barely engage in wooden craft production anymore. The traditional wooden canoe has also been adapted into a lighter fibreglass version, which has created a niche for small enterprises manufacturing boats. Nowadays only a few men collect wild non-timber forest and river-based resources (river reed), but

many benefit from them by providing transport services to the women who harvest reeds and grass. Usually part of the harvest is used as payment, which men can then either sell or use at home.[117] Mr. Sebupiwa, a commercial fisherman who owns an engine powered boat, says he usually charges fifteen bundles of reeds or grass to transport forty bundles.

Research by Applied Development Research Consultants in 2001 (cited in Mmopelwa et al. 2009: 244) found that these resources are harvested in 21 villages in the Delta. Mmopelwa et al. (2009: 242) estimate the overall total direct use value of these resources (grass and reeds), including household income contributions 'in kind', to be US$1434 per household for 2003 (or US$43.41/ha). This value is almost equal to the average household financial income of US$1416/year (Ibid).

The main wild resources collected are thatching grass, river reed, wild fruits/foods, wood for fuel, and palm leaves for basketry. Wild fruits such as berries *(Grewia flava),* palm fruits and *mokutshomo* (*Diospysros mespiliformis*) are usually collected by children for snacking or consumption at home, and sometimes part of the harvest is sold. Berries are also the main ingredient in beer brewing, done by local women and sold locally. Grass is used for roofing mud and reed houses, and also used by safari lodges as an 'eco'-roofing material, partly because government regulations discourage the use of non-natural products for building tourism facilities. Some species are used for making traditional woven baskets. River reed *(Phragmites australis)* is used for various purposes including matting, building courtyards and even houses, and, in some cases, making fishing baskets. Palm leaves (*Hyphane pertesana*) are used for weaving baskets.

[117] Mr. Salepito Sebupiwa, commercial fisher, interview, Seronga, 13 September 2008.

Figure 8: Women arriving back to the village from a grass collection trip (photo taken September 2008).

Figure 9: Reeds resting against a tree next to a floodplain (photo taken in September 2008).

These resources are becoming scarcer and harder to access for a number of reasons, including legal restrictions and their location in areas now allocated to other uses, as well as environmental change-related factors. Access also depends on proximity to harvesting areas and physical access to them, access to harvesting tools, transport and traditional institutions such as taboos, as well as access to harvesting groups. Collecting grass requires little or no skill in using the cutter (sickle), but is a laborious and time-consuming activity. In the area of Seronga, where settlements are close to

protected areas (Moremi Game Reserve), there are few places to harvest grass, and usually harvesting is done on islands in the Thaoge River. This requires access to a boat for transport. Collecting palm leaves is a highly-skilled activity, and weaving baskets also requires extensive skill. Palm trees are found on or near the river islands and floodplains.

Competition for these resources is rife, as land-use policies have reduced the area under communal use over time. As these resources are usually used by women, the most competition is between them as a group of resource-users. Women with less access to financial resources, or lacking transport or marketing opportunities, have fewer chances of turning these activities into viable businesses. Safety at harvesting sites is also a concern. Wild animals such as crocodiles, hippos, elephants and predators pose the most harm to harvesters. Many of the islands are populated with large mammals such as hippopotamus and elephants, which can pose a significant threat to life and limb. Many unmarried women have to form collecting groups to increase their chances of being safe when camping out in the islands. Harvesting trips can last for ten days at a time if the harvesting site is far. To protect themselves from wild animals, women have to take turns keeping watch and lighting fires. In addition, many women cannot steer boats on their own, and therefore cannot travel to the sites without assistance. Women with husbands or male relatives who own boats have a higher chance of accessing islands by boat for harvesting grass and reeds and transporting them back to the village. Traditionally men do not harvest grass, but some do travel to the harvesting sites with their wives to keep them company and provide protection and safety from wild animals. Unmarried women struggle to get this kind of support and rely on each other for this:

> *Today I got the opportunity to go to the islands in the interior of the Thaoge River with a group of women from Seronga to collect their bundles of grass and bring them to the village. Six women came on the trip into the islands to collect the grass they had cut and bundled up in July/August. Since they have no transport of their own, they have to camp out in the islands for two to three weeks cutting grass. They then leave the bundles on the islands and return to the village and wait for Mr. Phillips to let them know when he will transport them to the islands. Willy* [Mr. Phillips] *is a local independent opposition politician who often assists local people, so he does this for free and in return the locals are his supporters. It is a lot of hard work loading the grass bundles. Each of the six women had on average about eight to ten bundles, and they also loaded the bundles of other women who did not manage to come on the trip. Each bundle is about is about 90cm in diameter and weighs about 10kg* (Notes from the Field, 24 September 2008).

The boat-owner, Mr Phillips, died in January 2009, and when I went back to Seronga a few weeks later, some of the local women told me how they would struggle to find the kind of support he had given them. They now have to hire a boat-owner to transport them to and from the islands and pay with part of their harvest. Many harvesting sites are indeed far from settlements, as traditional harvesting sites are fenced in by ‘buffalo fences’ and are now Wildlife Management Areas, the

primary use of which is commercial wildlife utilisation. Finding palm leaves is even more challenging for those who weave baskets, and harvesting requires some skill in order to find the best leaves. There is pressure to produce the best baskets, as the market is highly competitive (Bishop and Scoones 1994). This is because there is an established market for Okavango Delta baskets, which are highly-regarded internationally and popular with tourists. Many women therefore aspire to enter the basket-weaving market, but, as already noted, this requires extensive skills. As a young basket weaver noted:

> *This is an activity that requires skill and has taboos around the collection and processing of the materials, so not everyone engages in it hastily. It requires patience to learn before one puts their product on the market. According to one of the taboos, one cannot harvest and treat the leaves during one's menstrual cycle, as this will bring bad luck and result in one producing a bad basket* (Reshando Simba, Interview, 25 September 2008).

Palm leaves are not available everywhere, and are becoming scarce. For those who make baskets, finding a profitable market is a challenge. This is particularly so for weavers who live in places like Seronga on the eastern side of the Panhandle, where there is no communications infrastructure through which people can access raw materials and good markets. A young woman in her mid-thirties is a basket weaver who would like to establish a successful basket business. She struggles to find basket weaving materials around Seronga, and so has to travel to other villages to collect these or buy them from other collectors. She notes:

> *I get most of my materials from Gumare and Etsha 6 areas* [350 kilometres away]. *I have had to cultivate relationships with other weavers in these areas, so whenever I need palm leaves I go there and request for permission to collect in their area and buy other materials such as dye from those who sell them* (Moruo Diakajire, interview, 25 September 2008).

The other option is to purchase from those who harvest the materials, or grow a palm tree at home.[118] For weavers who reside on the western side of the Panhandle, an opportunity for marketing baskets internationally is provided by a number of NGOs and Botswana Craft Marketing, a private company that markets locally-produced handicrafts. The best baskets marketed by the company come from the Okavango, particularly Etsha where the HaMbukushu live. Through this company, women can sell their baskets for as much as US$720 apiece. This marketing support, however, is not available for everybody, but only the best weavers whose baskets are selected for international marketing. Those without any marketing support can sell for as little as US$30, especially if they sell locally. Basket weaving is a highly-skilled activity, and only those with the skill engage in it and profit. Many younger women are becoming increasingly

[118] Focus group discussion with basket weavers, 25 September 2008. See also Bishop and Scoones 1994.

interested in learning the art of basket weaving, as they recognise the financial benefits of the activity, but they often lack the financial resources to develop sustainable businesses. Access to credit and business information and services is lacking in the Okavango region in general, outside Maun. Basket weaving also requires patience and precision, and one basket takes on average a month to finish. The weavers are therefore sometimes forced to sell their baskets for very little in order to get cash. The price of the basket fluctuates according to who is buying and how many of the already-completed baskets have been sold. If a weaver has baskets accumulating, she is more inclined to reduce the price during bargaining with the buyer. Weavers prefer to sell to foreign tourists as tourists are more likely to pay more for the baskets (sometimes paying four to six times more than a local). Some weavers send their products to Maun or to the safari camps in the Delta with their children, friends or relatives who visit the village. Although the safari camps sell the baskets to tourists at a significantly higher cost than they pay the women, they provide a better-paying and more reliable market than locals.

As is the case with many other resources, access to vegetation resources has declined over the years due to changing and competing land uses in the area. The establishment of the Moremi Game Reserve in the prime area of the Okavango Delta and the designation of Wildlife Management Areas have not only restricted access to grazing for livestock, but also decreased access to other wild resources for many communities. Conflicts along the so-called 'buffalo fences' are a clear indication of the problems associated with fencing resources away from people. As captured in vanderPost's (2007: 556) analysis:

> Various conflicts have become evident in recent decades along this fence. It has become something of a people-environment front. Commercial safari operators, for example often complain publicly in the local weekly Ngami Times about incursions by people wishing to harvest resources such as fish, wildlife or reeds (to which they used to have access in the past) in WMA areas leased to them as concessions for a considerable fee.

Competition in the available harvesting sites is therefore prevalent among the harvesters, and between humans, livestock and wildlife, especially for wild fruits and grass. Certain fruits such as *mokutshomo* (*Diospysros mespiliformis*) are loved by both humans and the more than 150,000 elephants alike. Some wild foods are reported to have disappeared, or are only available far from the villages.

> *Elephants do not only affect our farming, they also compete with us for natural resources. They destroy vegetation and uproot trees. Some fruits do not even exist anymore as elephants uproot them; some of these trees die forever…* (Elderly male, interview, Seronga, 25 September 2008)

Due to increased competition in harvesting sites, there is a widespread perception among both locals and government institutions that the resources are being overharvested. In 2006, the Agricultural Resources Conservation (Utilisation of Veld Products) Regulations (December 2006) were put in place to regulate harvesting of these resources in order to conserve them. Restrictions on the harvesting of palm leaves, thatching grass and wood were introduced. Reeds *(Phragmites australis*) were allowed to be harvested without a permit, but palm leaves (*Hyphaene pertesiana*) required a harvesting permit from the Agricultural Resources Board (ARB) if the amount to be harvested exceeded ten bundles (maximum diameter of 20 centimetres) per household per month. Collection of thatching grass (seven different species) was not allowed from 20 October of each year to 15 July of the following year. If harvesting was carried out within the stipulated period, a harvesting permit was required if the harvest exceeded the quantity of 800 bundles (maximum diameter of 20 centimetres) per household. The Regulations required that only *effective and sustainable methods* be used, though these are not defined. Wood collection was also regulated by the Act, if collected for building purposes, and if the collected amount exceeded one tonne per household per month. These regulations were repealed a year later, in December 2007. A respondent in Seronga indicated that the current President did not 'like' them and had indicated at a *Kgotla* meeting that he would have them repealed. Fieldwork revealed, however, that locals were not aware that the Act had been repealed, as the Department of Forestry and Range Resources (DFRR) did not inform communities of the changes. The use of these resources therefore continues in some places as it did under the Regulations, although on average, harvesting of these resources does not reach the levels restricted by the Regulations. Many of the activities are also seasonal, as at other times of the year many women are engaged in other household activities such as farming. For instance, women in Seronga usually harvest grass at the end of winter (July/August), shortly before the ploughing season starts in September/October.

The prevalent narrative that natural resources (especially wood and thatching grass) are threatened by overharvesting due to unregulated use was the main driver for the Regulations. It remains unclear, though, whether a decline in the availability of these resources is driven by natural factors or purely human-induced, as this availability fluctuates over the years depending on rainfall and flood dynamics. The ecology of the ecosystem and the climate in the region play an important role in the availability of resources. As noted by Bishop and Scoones (1994: 28):

> When the rains are good, abundant harvests will be made, during drought times, no grass can be harvested.

An educated large-scale cattle farmer, also a member of the District Conservation Committee and the local community-based organisation, noted:

> *People understand conservation; it is inherent in their use of the resources. Otherwise the Department of Forestry and Range Resources is directly responsible for conservation of range resources and has done well in introducing many restrictions over their use. Rain is the only determinant of the availability of a lot of things: farming; good grazing and natural resources. It is what drives life here. The river flow and flood also depend on rain in the Angolan highlands. Vegetation is also dependent on rain. Nowadays many grass species are no longer available. Wild fruits do not grow as much as they used to, or dry out too quickly, especially in the islands and the dryveld* (Mr. O.M. Sakhuze, interview, 25 September, 2008).

This has negative implications for the livelihoods of those who depend on these resources to generate cash income. Access to these resources, however, remains relatively unrestricted by regulations, compared to wildlife resources and, recently, fish. The main challenge, as already noted, is restriction by fences and the inaccessibility of islands and other unsafe areas, and competition among the locals who aspire to turn these livelihood activities into commercial enterprises. The lack of markets is also a challenge for this group of harvesters. Analysis of the economic benefits from these activities has shown that their commercial exploitation has the potential to contribute significantly to household income, as annual average 2002 prices were P1595 for reeds and P1992 for grass[119] (Kgathi et al. 2005: 73). They are the only resources that women have some control over, as traditionally, men did not directly use them, although men are increasingly becoming users. Continued access to these resources is therefore of primary importance for many female-headed households all over the Okavango Delta. Appendix 3 is a summary of the environmental and socio-political factors regulating access to NFTPs, as discussed.

Regulation and control of access to NFTPs used to be under the authority of the chief through the *Kgotla* (village forum) consultative process (Ngwenya 2011). This role has been removed from the chiefs and placed in central government institutions. There are no strict taboos regulating the use of these resources, except for some relating to harvesting basket-making materials, and even then, often these taboos have fallen out of use. Village-level institutions such as the Village Development Committee (VDC) do not have a mandate to regulate use and access as they are non-statutory institutions, but as respected institutions, they play a role in advising and raising awareness about the prevention of over-harvesting and the conservation of these and other resources. They also collaborate with other village-level or regional institutions such as Conservation Committees to determine the appropriate timing for harvesting NFTPs. For instance, harvesting grass is

[119] The exchange rate is on average US$1:P6.8 as at 4 February 2011.

encouraged only after the seeds have ripened and dispersal has taken place (Cassidy et al. 2011: 82), which partly explains why, even though there are no official restrictions, community-level institutions still uphold old practices to regulate access and use.

VDCs were established by a Presidential Directive in 1968, and represent the lowest structures of the district administration institutional framework. They coordinate self-initiated development projects at the village level. The capacity of the VDC to influence human-environment interactions is largely determined by the political affiliation of its chairperson, who is elected by members of the community. Generally, these institutions have little or no power in effectively directing community development, particularly with regard to natural resource use and management. As the VDC Chairperson for Seronga explained:

> *The VDC does not have much influence in the decision-making process because grassroots processes do not work. There is no space for local perspectives in use of resources. Local issues are not taken seriously unless they are presented by politicians. If the politician belongs to the opposition this is also a challenge. The VDC therefore only plays the role of giving community members advice on already-existing laws* (Mr. Haskins Ndaba, interview, 05 March 2009).

The Seronga VDC Chairperson also argues that fewer households are using these resources as they opt for formal employment. The lack of a market for these materials is also such that people harvest mostly for household use, as most households already collect for themselves. Commodification has, however, increased the exploitation of these resources, such that there is competition between the different harvesters. Despite this, some researchers (e.g. Arntzen 2005) have argued that they are still underutilised, as the harvesting has not reached significant levels due to lack of markets. Where overharvesting occurs, it is usually localised.

5.3.3 Wildlife utilisation and community-based tourism

Batswana traditionally hunted, and, among them, some groups hunted more than others. The Basarwa/San in particular historically hunted, and continue to do so when they can. Wildlife was, however, one of the first natural resources to be placed under strict conservation and management. This was largely due to the earlier decimation of many species of wildlife by safari and trophy hunters, and the move towards conservation across many of the wildlife-rich British colonies such as Kenya, Tanzania and Rhodesia (Zimbabwe/Zambia) in the 1950s and 1960s. As noted, the Moremi Game Reserve was established in 1963 to create an exclusive area for extensive populations of wild animals in the Okavango Delta, and communities, mostly Basarwa/San, were relocated outside the reserve, while their homes and traditional hunting and gathering grounds were

enclosed within the reserve boundaries (Magole and Magole 2009). This move towards conservation of the Okavango Delta's biodiversity emerged alongside the development of tourism, in particular safari hunting.

Tourism in Botswana, as is the case in much of sub-Saharan Africa, is based on the use of wildlife resources and the aesthetic beauty of nature. Both consumptive and non-consumptive uses of wildlife are practised in Botswana. Consumptive use involves sport hunting and trophy hunting, game farming, live capture and export of live animals or translocation, and taxidermy and trophy processing (Kgathi et al. 2004: 18). Non-consumptive use involves game viewing and photography. Commercial hunting (e.g. hunting for ivory or skin) was banned in the late 1970s, but subsistence hunting was allowed for Basarwa communities until 1996, when prominence was given to wildlife quotas for community-based tourism (Mbaiwa et al. 2008: 164) under the then-informal CBNRM framework. A licensing system was introduced through which all citizens in the country could have access to wildlife, but this was on a competitive basis and the Basarwa also had to compete (Ibid). This meant that wild meat has become scarce, and communities who traditionally hunted for subsistence can no longer readily access this resource at individual or household levels, except in situations where the kill from recreational hunting is given to a community through a safari company. This open competition also means that outsiders (i.e. hunters from other parts of Botswana) compete with the locals for quotas.

WMAs are the areas in which communities can communally utilise and manage wildlife resources together with the government institutions responsible (e.g. for community-based tourism). According to Mbaiwa and Thakadu (2011), the demarcation of WMAs and CHAs in the Okavango region did not fully involve local communities. The officially-designated use of WMAs and the respective Controlled Hunting Areas (CHAs) varies from private commercial and community-based photographic safaris to wildlife use, including hunting within a strict quota assigned by the Department of Wildlife and National Parks (DWNP) (vanderPost 2007: 556). As already noted, in the Okavango Delta alone there are 17 Controlled Hunting Areas: eight of these belong to the communities, eight are privately held and one is fully controlled by the wildlife department (Magole and Magole 2009: 878). These numbers may give the impression that community-managed concessions are equal to those privately held, but as Table 6 indicates, it is not the case. CHAs[120] designated for community use constitute 34% of all CHAs, 43% are privately held by individuals and private companies in the tourism industry and 23% (one CHA) belong to the wildlife

[120] See map showing CHAs (Controlled Hunting Areas).

department. This indicates that use of these areas and the wildlife therein is skewed towards conservation and privately-controlled tourism.

Figure 10: CHAs and protected areas in the Okavango (Ngamiland District). Map courtesy of SGI Maun, Botswana.

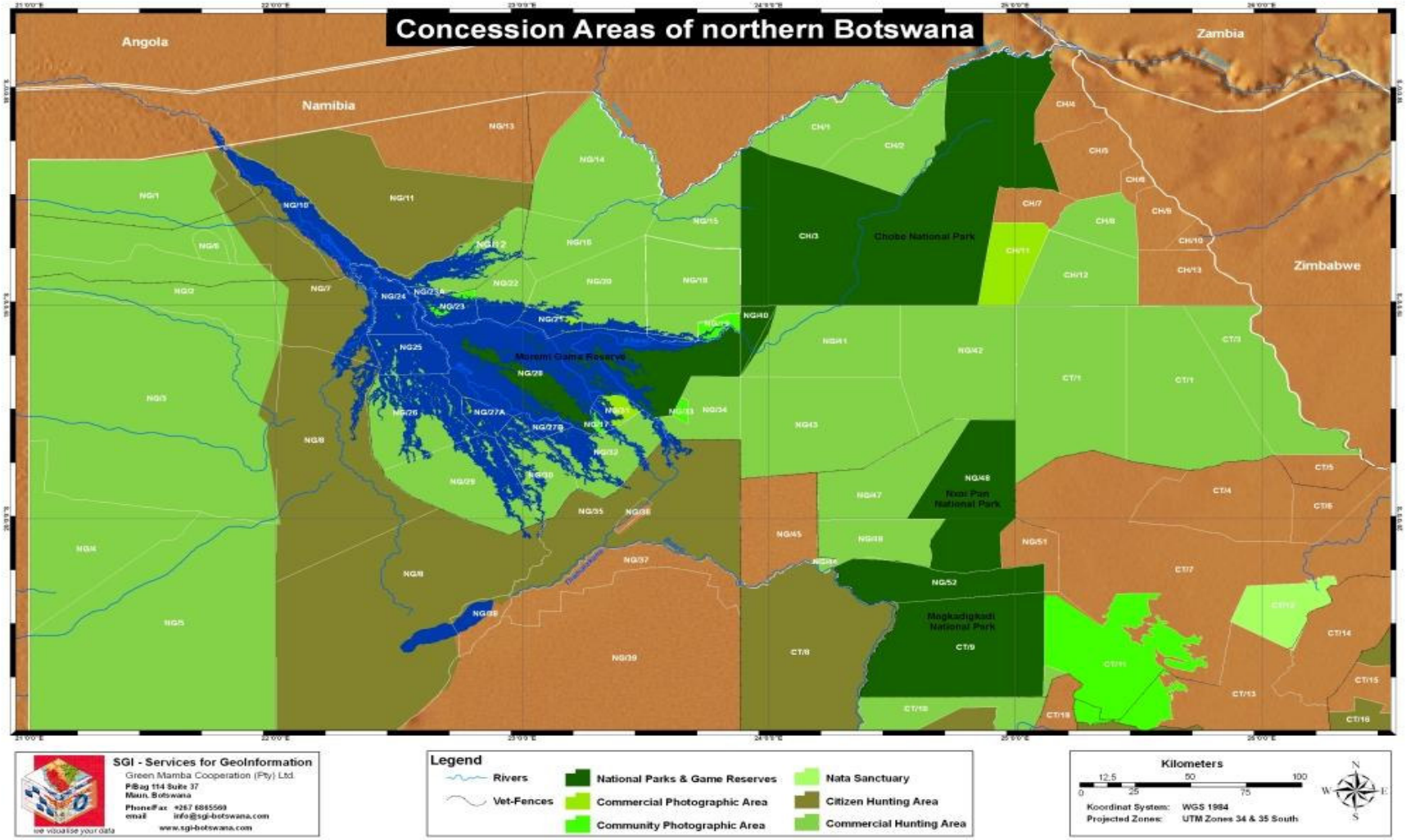

Table 6: Total number and area of land for Controlled Hunting Areas (CHAs) under different leas- holders

	No of CHAs	Total area (Km^2)	Proportions (%)
Community CHA	8	7650	34%
Private CHA	8	9600	43%
DWNP CHA	1	5000	23%
Total	17	22,250	100%

Source: Magole and Magole 2009: 878 'The Okavango: Whose Delta is it?'

Although communities control 34% of CHAs (shown in the map above as Citizen Hunting Areas), their tourism businesses can barely be sustained without the participation of the private tourism industry, which already controls 43% of the CHAs. As mentioned, the CBNRM and wildlife policies require communities to form trusts if they wish to engage in community-based tourism. A board of trustees is elected to represent community interests and to administer the trust. The committee should display representativeness (in terms of ethnicity, gender, age etc.) within the community. Representatives from the DWNP and other departments identify villages for participation in CBNRM, facilitate the formation of CBOs and attempt to prevent biased representation through a series of community meetings (Poteete 2009a). Most community trusts are, however, controlled by men, usually already privileged, and women generally occupy clerical positions with little or no decision-making authority (Rihoy and Maguranyanga 2010). Many community trusts also suffer from internal conflicts and for this reason become even more vulnerable to exploitation by the established private tour companies with which they form joint-venture partnerships. Many of the joint-venture arrangements are also more or less imposed by authorities upon communities and companies (Arntzen et al. 2003). For the private sector, working with communities complicates management, while communities often feel short-changed because not everyone acquires a job. The management of many community trusts leaves a lot to be desired. Discussions with some members of staff of the Okavango Community Trust (OCT) reveal that the CBO lacks accountability towards the community, and its administration is an exclusive activity of a few individuals on the Board of Trustees (Rihoy and Maguranyanga 2010).[121] Many of the board members, who are usually older, are illiterate and have little enterprise understanding (Keitumetse 2009). CBOs are also associated with high levels of corruption, with large sums of money

[121] Also noted by a CBO staff member interviewed during fieldwork, 3 September 2008.

unaccounted for.[122] Curiously, these individuals tend to be re-elected as board members, often because they are already politically influential members of the community: the rural elite. The OCT is in charge of administering two concessions, NG22 and NG 23, and covers a 'community' encompassing five villages with a total population of about 6431 (Rihoy and Maguranyanga 2010).[123] On average, the OCT receives about P2 million (US$280,000)[124] annually as profit from leasing its concessions to a private tour company. The total profit that the private company accrues from the use of the community concessions is, however, not disclosed to community members or the board. The proceeds from the lease agreement are meant for community developments within the beneficiary communities, but, in many cases, few benefits have actually been realised at community level.

In September 2008 I had the opportunity to attend a community meeting at which the financial report of the OCT was presented, and out of a total annual income of P2.3 million (US$322,000), P1.2 million (US$168,000) was unaccounted for. No evidence of the money being spent was availed to the auditors, nor explained to the community. Some of the board members blamed this on the previous manager, who, at the time, had been laid off and was not present at the meeting. In some cases, trivial excuses such as theft were offered for large amounts of money going missing, but no police reports were made available to either the auditors or the community. Mbaiwa and Thakadu (2011) also note the apparent strong private sector and political influence over the OCT board's activities and decisions, which has excluded other members of the community from meaningfully participating in the development and decision-making processes of the trust. Responding to the audit report, one member of the community present at the meeting complained:

> *These wetlands are putting us at a disadvantage, the trust is running at a loss and the community is not benefiting. What has happened to this money?*

A member of the traditional leadership authority also commented:

> *It is clear that these funds are being stolen by individuals for personal use. These people need to be reported and prosecuted. Why are they not being arrested?*

Also present at the meeting were members of the CBNRM Technical Advisory Committee, represented by an officer from the local DWNP office, who announced that the Committee had made a decision to take the issues to the Directorate of Corruption and Economic Crime (DCEC)

[122] Observations from attending a presentation of the financial audit report of the Okavango Community Trust on 12 September 2008 in Seronga.
[123] OCT villages are Seronga, Eretsha, Beetsha, Gunitsoga and Gudigwa. See map of CHAs labelled as NGs
[124] Averages for 1 August 2010 at http://www.xe.com/ucc/convert.cgi?Amount=1200000&From=BWP&To=USD

for investigation. A member of the community was nominated as 'the eyes of the community' to accompany the board to the DCEC office.

This is an example of what happens with many of the community trusts in the Okavango Delta, and has rendered CBNRM of little benefit to most communities aside from a select few, or, within communities, a few individuals. As noted, the 2007 CBNRM policy decision to introduce a 65% tax on CBO profits to go into a National Environment Fund is part of the government's response to problems of mismanagement of these trusts (Poteete 2009a; Magole 2009). According to a senior officer in the Department of Environmental Affairs,[125] this would better enable communities at large to benefit from conservation activities, as they could access these funds for community development projects. This decision contradicts the logic of CBNRM, weakens incentives for conservation and disempowers CBOs (including those that are running well) (Poteete 2009a). The real causes of the failure of CBNRM programmes go beyond technical financial mismanagement, and include a lack of political will by the government to empower communities to manage natural resources, as well as unequal power relations between different members of the community. There is also widespread elite capture of the benefits of CBNRM at the expense of the rest of the community.

CBRNM in the Okavango Delta was established at a time when the tourism industry was already owned and controlled by a small, expatriate community. Most community-based organisations are not directly involved in the management of their wildlife quotas, and leave that responsibility to the commercial partner to which they lease the once-communal land for an average of 15 years (Magole and Magole 2009). This is usually due to the CBO management's lack of business and professional acumen, as well as a lack of financial capital to engage directly in the Delta's up-market tourism (Keitumetse 2009). Only through venture partnerships with these companies and individuals do community concessions stand a chance to succeed. According to vanderPost (2006), resentment towards CBNRM – that is, for tourism mostly organised in community/private sector partnerships – is particularly rife when the number of jobs offered is small relative to the population, as this divides the community, or when outsiders need to be engaged to run the project, as often happens, due to the unavailability of skilled local people. 'In extreme cases, resentment may result in destruction of lodges as happened in the case of Jedibe lodge' (vanderPost 2006: 298), where a community was believed to have burnt down a tourism facility because they felt cheated by the terms of the joint-venture partnership. There are, however, successful cases of CBNRM in

[125] Interview, 8 April 2009.

Ngamiland (Mbaiwa 2005; Keitumetse 2009; Rihoy and Maguranyanga 2010), depending on a number of factors, including the proximity of the community concession to a wildlife-rich area, and the 'homogeneity' and size of the 'community'. Communities located far from WMAs do not benefit much from the CBNRM arrangement, and in some cases do not have CBOs registered. In addition, larger, more heterogeneous communities are plagued by conflicts, as there are often too many beneficiaries, sometimes with benefits skewed towards a particular group, and the resources are not enough to go around (vanderPost 2006). A successful example is that of the Sankuyo Tshwaragano Management Trust (STMT), which operates from Wildlife Management Area NG34, and the adjacent Moremi Game Reserve. This community trust's business operations include a lodge (Santawani) and a community camping site (Kaziikini), and the trust has recently planned to diversify into cultural tourism through a cultural village project called *Shandereka* (hard work) (Keitumetse 2009). The STMT has been reported to pay cash dividends of as much as P300 a month (US$75) to individual households in the community (Jones 2009), defined as 'village residents of Sankuyo and associated homesteads', administered by the Sankuyo *Kgotla* (ward, under the authority of the village chief) (Keitumetse 2009: 237). Though criticised as low, the importance of cash dividends, as well as the timing of payments, has been shown to significantly raise the income of households, especially at critical times like the beginning of the year when school-fees have to be paid (Jones 2001).

Community-based tourism as a livelihood activity has the potential to benefit communities in the Delta, but in the case of Botswana, wildlife-based community tourism is so far more successful. Most tourism companies are required to employ their staff from CBO catchment villages, and through this arrangement, villages covered by CBNRM, like Seronga, benefit directly through formal employment of their members in camps and lodges owned by the joint-venture partner. The fact that other wild resources are not perceived as viable economic activities within the CBNRM framework, especially in the Okavango Delta, has meant that the benefits for use of these resources accrue only to those who can commercially exploit them (Mbaiwa 2008: 165), creating resentment from communities where there is no wildlife. As access to resources for subsistence purposes has declined in the Okavango Delta, particularly with regard to wildlife, CBNRM is the only option through which communities can access wildlife resources. The majority of CBNRM projects have, however, had little success. As a senior official in the Ministry of Environment, Wildlife and Tourism (MEWT) noted:

> *There are too many politics around the CBNRM approach in Botswana. It has so far failed a lot of communities. The Botswana Tourism Board* [a para-statal organisation set up to market Botswana's

> tourism], *is now moving in to take over CBNRM activities. We do not know yet what this new development will yield as it is a radical move* (Interview, 08 April 2009).

Although some communities have managed to benefit from the CBNRM arrangement, such as the STMT mentioned above, some have expressed their desire to go back to the old system where they were allowed to hunt for subsistence (especially Basarwa communities), as they still feel disadvantaged to benefit from CBNRM compared to those in the private tourism industry (Mbaiwa et al. 2009: 166). A member of the community noted:

> *Most Basarwa communities, especially along Moremi Game Reserve, want their hunting rights back and are questioning the usefulness of the CBNRM arrangement. This is because these communities have not seen any proceeds from CBNRM; only a few people benefit. And now the government wants to take 65% of the little that CBOs make from tourism, this will completely defeat the intended purpose of CBNRM* (Interview, 3 September 2008)

As the CBNRM Policy of 2007 (December) is still new, it remains to be seen how the CBNRM approach in the Okavango Delta will evolve. Unconfirmed reports about the possibility of a hunting ban surfaced during fieldwork, although these have not been confirmed through any official announcement.[126] The majority of the proceeds from tourism accrue from consumptive use of wildlife (e.g. safari hunting), and it is through selling the hunting quota that most CBOs are able to access significant financial resources from CBNRM initiatives.

Community use of wildlife resources is one of the most contentious issues in the Okavango Delta, and there are stark inequalities in access, which is generally restricted. Direct use of wildlife for meat and other products is virtually non-existent, except in cases where this is made available after commercial hunting. Consumptive use (e.g. safari hunting) of wildlife resources is, however, increasingly being discouraged and non-consumptive use (e.g. game viewing, filming) promoted. The relationship between the DWNP (wildlife department) and communities living around wildlife areas is tense and antagonistic (Mbaiwa et al. 2008). As Mbaiwa et al. (2008: 163) argue: 'The adoption of laws prohibiting hunting affected more than material livelihoods, especially for the Basarwa, for whom resources constituted the integral bases for their socioeconomic philosophy and expression of their identity'. Communities, on the other hand, maintain that resource management and control should be left to them, as they have historically used resources sustainably. As an elderly man noted in a focus group discussion (22 September 2008):

[126] These reports stem from the fact that the current President is against hunting, and, as a board member of Conservation International, he may be under pressure to abolish hunting in Botswana.

> *We have always used our own knowledge to conserve our resources, now the government says we are misusing them, but they would not be here if we were misusing them.*[127]

Another observed:

> *Not everybody participated in hunting expeditions; you had to earn it as a reputable and responsible hunter. Before hunting trips, we would specifically agree on which animals to hunt, and this was done in winter. If you were caught breaking these rules, you were eliminated from the hunting party because you had killed the nation*[128].

Although these systems were not perfect, and indeed excluded some individuals and groups, decisions were still made at the community level, and the chief and village elders facilitated negotiations. Today, these decisions are made solely by the DWNP through the quota and licensing system, and the benefits of wildlife use largely accrue to those who control institutions such as community trusts. Some wildlife poaching occurs in the Okavango Delta region, and government laws against poaching are very strict (Mbaiwa et al. 2008). Mbaiwa et al. (2008) assert that poaching occurs specifically because communities cannot access licences and have to compete for them with urban recreational hunters, as the DWNP only issues a limited number at a time. The DWNP office reports that it has never made any arrests for poaching because poaching happens in areas that are difficult for the wildlife office to access because of a lack of appropriate transport.[129]

5.3.4 Fishing

This section discusses another important livelihood activity in the Okavango Delta: subsistence fishing. Commercial fishing is not discussed in detail in this chapter as it is the subject of Chapter 6.

As noted in Chapter 3, subsistence fishing, like farming, is a traditional practice that is embedded in the culture and history of the Okavango people. It has socio-economic, socio-cultural and food security values to the lives of the Delta communities (Mmopelwa et al. 2009: 121). Fishing in the Okavango Delta is done by all: men, women and children. According to Tlou (1976: 49), the first fishers were the so-called 'River San', who were also the first inhabitants of the swamps. They used three main techniques: building weirs across the mouths of flooded areas, stranding fish as the floods receded; poisoning lagoons with rubber hedge *(Euphorbia tirucalli)* and spearing fish; they may also have used funnel-shaped fishing traps thrust down over the fish, removing the fish through a hole in the trap's neck. As already stated in Chapter 3, fish utilisation changed around the 1750s with the advent of the Zambezian people (from the Zambezi area in present-day Zambia); the BaYei

[127] Focus group discussion with elder farmers.
[128] Ibid.
[129] Interview, 16 October 2008

; and the haMbukushu. In the past, the BaTawana (a Tswana tribe) did not normally eat fish, since they revered the crocodile, although many of them will eat fish today (Campbell 1976: 167). The HaMbukushu fish, but this is secondary to arable farming (Ibid). In the past the River San were expert fishers, having incorporated the Yei fishing techniques into their own (Tlou 1972). Today, hardly any San engage in fishing and many have been displaced from the riverine parts of the Okavango by other dominant groups, now living in the remote areas away from the river and wetland floodplains, where they can only access dryland foods.[130]

According to Ngwenya and Mosepele (2008), there are various groups of fishers in the Okavango Delta. *Occasional* fishers use simple apparatus and fish casually for subsistence (from the river banks or by wading into the water) during the hiatus between sowing and harvesting seasons. *Seasonal* fishers are sedentary people living on the floodplains who fish during part of the year; seasonal fishing is caused by the need to either supplement diets or to generate extra income.[131] This normally results in heightened fishing activity at receding and low water levels. *Professional* or commercial fishermen, who fish regularly for sale, fish at least five months of the year with gill-nets, and at times follow fish stock movements around the Delta using motorised craft (Ngwenya and Mosepele 2008: 11). Artisanal fishery harvests approximately 270 tonnes annually, primarily for subsistence use, with a little surplus sold (Ibid: 15). Women do not engage in commercial fishing, as traditionally they are responsible for other household activities and only fish seasonally.

Artisanal fishing (both occasional and subsistence) in the Okavango Delta has retained most of its traditional flavour. Most artisanal fishing gear is still in use in the Delta, and one can find five different kinds of fishers: hook and line; spear fishers; basket fishers; gill-net fishers; and trap fishers (Mmopelwa et al. 2009). According to Mmopelwa et al. (2009: 121) the different fishing gears used in the Delta are habitat- and time-specific, and are used as a household response to cope with spatio-temporal variations in fish availability in the Delta. Gill-nets and hooks and lines are generally used in relatively deep water (i.e. >1.5m). Conversely, fishing baskets, barrage traps, fishing spears and mosquito nets are used in shallow seasonal floodplains (<1.5m), usually when the floods arrive or recede. Women and children fish for subsistence on the floodplains and in pools away from the main channel using cloths and sheets, traditional hooks and lines and reed baskets

[130]TOCaDI NGO staff member, written email response, 30 July, 2009. Trust for Okavango Cultural and Development Initiatives (TOCaDI) is a self-help development organisation based in Shakawe in the district of Ngamiland, aiming to utilise all possible strategies to assist firstly, but not exclusively, the San to get access to land and other resources needed for their survival. TOCaDI's efforts focus upon mobilisation of people into community organisations that can apply for and eventually manage their resources in sustainable ways (www.kuru.co.bw).
[131] Research Fellow, ORI, interview, 8 January 2010

(usually harvesting some of the smallest species). For this group, fishing is a social activity, as a higher proportion of women, girls and boys normally fish in groups (Mmopelwa et al. 2009: 121). Adult men who fish for subsistence normally do so alone and also use hooks and lines (catching large fish), wooden canoes and mosquito nets, although the latter is now outlawed as per the 2008 Fish Regulations. Sometimes these fishers (adult men) can sell as much as half of their catch. Others fish for recreation, usually young boys and adult men, but what is caught is always taken home for consumption, sold locally for cash or other goods or dried for future use. That caught by women and children is usually all consumed at home, but young boys tend to sell their catch if they catch more than is needed at home.

Although the products of relatively small-scale and artisanal, commercial fishing are primarily for the market, they can also be consumed at home or given to friends and relatives, particularly if less valuable species are caught. These are fish that are not usually consumed due to religious or cultural taboos (e.g. *Clarias spp* and *Hydrocynus vittatus*) (Mmopelwa et al. 2009). Additionally, because there is no reliable market, some of the catch has to be consumed in any case, lest it be rendered unusable from rotting. Most people who cannot fish in the community buy fish from the local commercial fishers when it is still fresh. Sometimes dried fish is sold too, often at almost the same price as fresh fish, as they are considered to be of the same quality.[132] Commercial fishing is a year-round activity, while subsistence fishing is mostly seasonal as it is primarily carried out on floodplains, which dry out part of the year. 'The resultant longitudinal and lateral fish migrations effected by these variations result in spatio-temporal variations in fish availability and this has implications on households to whom fishing is a major livelihood activity' (Mmopelwa et al. 2009: 199).

Local fishing communities rely on fishing for household consumption, as a source of income for those who sell fish, and for cultural reasons, as it is something to identify with as a people.[133] Mmopelwa et al. (2009: 121) found that 68% of fishing households in the Delta consume more than half of their catch. Elders in the community emphasise the importance of fish in their daily lives, tradition and culture. Older people recount stories of how fish sustained them through vicious droughts in the past.[134] Younger adults talk about the role of fish in their education and upbringing:

[132] Fish saleswoman, interview, 06 March 2009.
[133] Interview with senior fisheries officer, 10 September 2008.
[134] Focus Group Discussion with commercial fishers, Seronga, 20 September 2008; Female village elder, interview, Seronga, 24 September 2008.

'We were raised on fish; our parents put us through school by selling fish'.[135] Fish is also bartered for other goods and is engaged in as a recreational activity and an expression of the local culture and traditions. Different people view fishing as an important aspect of their lives, both those who fish and those who do not:

> *Fishing is part of the culture and tradition of every Motswana: our ancestors have always fished. We BaYei have always fished: it is who we are, without fish we cannot survive* (Gaesemodimo Xhokhwe, focus group discussion with Farmers, Seronga, 22 September 2008).

To some poor households it is the only source of protein and an accompaniment to porridge:

> *There are some poor people in this community who cannot afford to buy supermarket groceries and depend entirely on fish. After school, children are sent to the river to catch a few fish and that way a family can avoid sleeping on an empty stomach* (Village Development Committee Chairman, interview, 03 September 2009).

This is the case particularly for female-headed households who have little or no other means of generating income. Women do not fish for commercial purposes, nor do they employ sophisticated methods through which they can access marketable fish. Many do not have access to the fishing technology that the men use, although some would like to engage in the activity on a commercial basis. Despite the importance of fish to household food security, it is still difficult for a lot of women to access fishing at most times of the year; their fishing gear is only suitable for use on the floodplains, which dry out for part of the year. When they cannot fish (e.g. during ploughing season) they have to access fish through the market. Some women buy fish from men and sell it for themselves, while others sell the fish that their husbands or partners catch:

> *A 34 year old, unmarried mother of two sells fish caught by her partner. He is a commercial fisherman who owns a 40cc engine-powered boat, a fibreglass boat and five gill-nets of varying sizes. He is generally well-off, compared to other 'commercial fishermen'. I ask her if she would like to learn how to fish with a gill-net herself and she tells me that she cannot suggest that to her partner, he has to be the one to decide. He also sets the price of the fish, though he is never at the market. 'Life is good and goes on through selling fish,' she says; she is able to take care of their three children. She says she still does not have control over the household finances though; even though she sells the fish, her partner decides how the money is spent* (Interview, Seronga, 6 March 2009).

For many of the other women it is much harder to access fish, even to sell:

> *Another woman in her late forties has no job and no husband. Her daughter works in the safari camps and has built her a one-roomed concrete house with corrugated iron roofing. She takes care of her granddaughter. She is interested in fishing as an income generating activity, but she does not know how to steer a boat or cast a fishing net, nor own any. She has no one to teach her these things as this is the responsibility of a husband. Other men cannot teach women that are not their wives*

[135] Focus Group Discussion with members of Boiteko Trust, Samochima, 8 September 2008.

> *how to fish, or steer a boat. She therefore relies on her daughter's remittances to cover basic household needs* (Interview, Seronga, 20 September 2008).

Fish is important to households during lean times, and when other options are not readily available, or reliable, particularly farming. The practice of fishing has however undergone changes over time. At the community level, these changes have more to do with the methods of fishing and the accessibility of fish itself, which cannot be separated from forces outside the community. Fish have changed from being just a source of food to being commercialised and sold as a commodity, and from being unregulated by government policy to acquiring the same status as wildlife and thus subject to strict conservation policies. Control of fishing has, over time, shifted from local institutions to modern, formal ones and from local groups to external ones. Fishing and the politics of access to and control over the resource are the focus of Chapter 6, in which fishing is used as a lens through which to understand the socio-political and environmental dynamics shaping access to and control over natural resources in the Okavango Delta, and in particular to highlight the dynamics surrounding the management of resources in Ramsar Sites and other wetlands whose use and management have received international conservation attention, or have been internationalised.

According to Campbell (1976) and Tlou (2000, cited in Kgathi et al. 2005: 76), in the pre-colonial and pre-independence eras, some villages in Ngamiland held exclusive fishing rights in designated areas, and poaching was punished either by heavy fines or confiscation of fishing equipment. Kgathi et al. (2005) and Cassidy et al. (2011: 83) argue that it is possible that the government's failure to acknowledge these traditional management practices, and the commercialisation of fishing (which occurred in the 1980s) could have contributed to the erosion of these institutions 'and turned fishing into an over-exploitative open-access resource, with a current high level of friction between fishing communities'. However, fishers in Seronga maintain that even though it is difficult to control or regulate fishing practices, there is a level of cooperation among some fishers, particularly the organised 'commercial' fishers, who often negotiate on which fishing sites to target, and how much to fish.[136] Interaction between different fishers through committees also fosters peer-to-peer learning. As noted in a focus group discussion with commercial fishermen by the chairperson of the Seronga Fishermen Committee, Mr. Pitso Enametse:

> *Being a member of the committee is useful because we also learn from each other. For instance, we used to use unsustainable fishing methods such as burning reeds and also poisoning lagoons. Through our interactions with the Fisheries Office, we have learnt that these methods were not good because they killed all fish, even the ones we did not want to catch. We have now discontinued the use of such methods.*

[136] Salepito Sebupiwa, commercial fisher, interview, 13 September 2008.

Some disagreed with this view, arguing that the use of fire was important for *'preparing the fishing grounds for breeding'*, and that with the prohibition of fire use, *'fish is now scarce as it does not venture out to the floodplains and they do not breed properly as a result'*.[137] Another commented:

> *Old practices are no longer useful because we cannot engage in them. Some have been made illegal and are seen to be resulting in degradation and unsustainable use of resources.*

Some fishing practices are indeed considered unsustainable by some community members. For instance, the use of mosquito nets by subsistence fishers, particularly women, who also practice basket fishing, is criticised by commercial fishers because it targets small fish, and the nets also end up catching micro-invertebrates. As this practice is used by women who also use traditional fishing baskets made out of reeds, basket fishing is considered unsustainable and bad for fish conservation by both commercial fishers and the Fisheries Division (Mosepele and Ngwenya 2010). Some claim that basket fishing and the use of mosquito nets target smaller species of fish *(Aplocheilichthys jonstoni),* not necessarily immature fish (Mmopelwa et al. 2009: 123). It appears that there is disagreement about the sustainability of this practice. Mmopelwa et al. (2009: 123) do, however, argue that basket fishing is non-selective, as fishers harvest the largest number of species, while other methods such as barrage traps are more selective. Jul-Larsen (2003: 13) notes that any non-selective capture method automatically carries the connotation of being harmful or destructive, or at least leading to overfishing when seen from the traditional single-species perspective. Like other small-scale artisanal inland fisheries, the Okavango Delta is a multispecies environment in which fishers discard on average 5% of their catch, as opposed to 45% in large-scale, industrialised fisheries (Jul-Larsen 2003: 14). A multi-gear strategy like that used in the Okavango Delta is, therefore, an important coping strategy that improves access to fish, but also optimises fish utilisation (Mmopelwa et al. 2009).

As Chapter 6 will show, fish in the Okavango Delta is still regarded as underutilised, largely due to the use of traditional fishing gear, which the most populous fishers (subsistence fishers) use. These methods are generally ineffective and therefore do not allow for extensive fishing.

5.4 Conclusions: Outcomes for local access and control over natural resources

[137] Kesolofetse Kafuro, interview, 20 September 2008.

In this chapter I have sought to explain how access to and control over Okavango Delta wetland resources have shifted over time from communal ownership and control to more strict management controls by central government institutions. The desire to modernise production systems has favoured commercial use of resources, and subsistence and communal production systems have been marginalised and labelled not only as backward, but also as destructive of the environment. Private ownership and control over resources and commercial production systems have primarily advanced the interests of those in powerful positions: the elite. For the rest of society the gains have been minimal. Commercial use of resources such as reeds and grass, and, as Chapter 6 will show, fish, while able to increase income at the household level, is not a viable, long-term strategy for building sustainable livelihoods. The underlying challenges for commercial exploitation of these resources remain the lack of markets for finished products. Even for livestock, where established markets exist, they remain inaccessible for the majority of farmers. For Okavango farmers, livestock markets are more than a thousand kilometres away. In addition, these production systems remain a high-risk activity due to shocks and stresses present in the ecological system, but such shocks are also presented by political decisions, such as the 1995/96 decision to kill all cattle in the area to eradicate cattle-lung disease. Permanent challenges remain in the form of restricted movement of livestock within the Delta itself, as the numerous veterinary and disease-control fences and buffers restrict access to grazing pastures and water resources, resulting in die-offs during droughts and periods of low rainfall. These same fences also restrict access to other resources, including fish, grass and wild fruits.

Commercial exploitation does, however, present an opportunity for generating income, and considerable gains have been made, particularly in the tourism industry. While government policy and investments have enabled the success of the industry, the distribution of costs and benefits, whether at community level through the CBNRM framework, or at the national government level through macro-economic policies, has been skewed. Most benefits have been captured by the elites (rural, business, bureaucratic and political) as well as by central government agencies that control access to and use of these resources. These groups are able to influence policy and decision-making processes such that they benefit their own interests, or are able to position themselves such that they capture the most benefits. Thus, communities who have lost access to these resources for subsistence use bear most of the costs of conservation and tourism. Periodic crop raids by elephants, loss of livestock to predators and competition with wildlife for grazing and water resources mean that achieving sustainable livelihoods remains a challenge.

The role of local and global narratives of degradation and the tragedy of the commons play a role in these processes. They have been shown to justify policy decisions that privatise the use of resources and converting their use from communal to private, as exemplified by the 1975 Tribal Grazing Land Policy (TGLP), and the subsequent 1991 National Policy for Agricultural Development (NPAD), which divided communal land into Wildlife Management Areas (WMAs), Controlled Hunting Areas (CHAs) and commercial ranches, and subsidised private accumulation and fencing. This capturing of communal resources has been justified as a measure against degradation and a prevention of the tragedy of the commons. In reality, what it has resulted in is a 'tragedy of the commoners' (Magole 2003). Smallholder farmers, subsistence fishers and collectors of reeds, grass and fish have been marginalised from resources they thought belonged to them. This is not to argue that communal and subsistence uses are better, or do not result in the degradation of resources, but it has been shown that modern management systems do not necessarily fare any better (see Rhode et al. 2006 for the southern African case on range management). Botswana's TGLP did not halt or reverse overgrazing; instead, it contributed to localised overgrazing of the remaining communal areas, as livestock was now squeezed in between ranches, and competition for both grazing and water resources heightened, as did conflict over use and control over resources (see Cullis and Watson 2005).

Community institutions have been shown to have been effective at regulating access to and use of these resources in the past. Indigenous technical knowledge (ITK), rules, taboos and village-level institutions, such as the traditional leadership and village committees, have played an important role in establishing rules for harvesting resources, the timing of harvests and hunting, as well as the use of grazing pastures. Although they were not perfect, and often discriminatory, these practices played a role in conserving resources, and meant that communities retained control over their use. Modern state policies have shifted this control from communities to central government institutions that have only peripheral interaction with resource-users. Some of these social institutions continue to exist, such as village development committees, but have no power or statutory mandate to play the role of regulating use of and access to resources, and also lack political support from central government institutions. As a result, there is a vacuum where state policies are either non-existent or are not enforced, and local social institutions have fallen out of use. That said, resource-users continue to uphold some old practices deemed useful for accessing and conserving resources. For example, grass and reed cutters still engage in these activities at a specific time of year, during winter after the seeds have ripened and dispersed, and fishermen agree on where to fish, what methods to use, and how much to fish. Narratives of degradation and a tragedy of the commons,

therefore, are shown to be weak or non-applicable in the Okavango Delta. There is little or no incentive for users to over-exploit resources as the returns on investment would be minimal, and the capital costs high. In Chapter 6, I explore these issues further by examining human-environment interactions and relations around the use of fish for commercial purposes. I will show how degradation narratives have been used by some user-groups to discredit the practices of others by appropriating global discourses of resource depletion and the tragedy of the commons, and will demonstrate how an alliance between these local discourses and interests and those of international conservation organisations and central government institutions has resulted in a response similar to that used for managing agricultural land and wildlife conservation: restrictive and exclusive. As with other resources, the benefits of these decisions accrue to a combination of national and international conservation and tourism interests.

Chapter 6
The political ecology of fish in the Okavango Delta: Access, conflict and control

6.1 Introduction

It is estimated that about 65% of households in the Okavango Delta directly depend on fish, either as part of their diet or for income (Mosepele and Ngwenya 2010). Communities also see fishing as a culturally-embedded practice that forms an important part of their history and defines them as a people. These views, and the practice of fishing in general, have recently come into significant conflict with the new policy-induced changes in the fishing sector that have introduced regulations, licensing and fees. Locals perceive this as a tool to marginalise them from a resource that is integral to their culture, tradition and livelihoods, while those in the Okavango Delta tourism industry and conservation sector welcome the regulations as a much-needed intervention to arrest what they perceive as a threat to the resource. As will be shown, fishing is a traditionally gendered practice, and recent contestations and conflicts have also arisen between different racial groups who pursue different goals in resource-use.

Building on the discussion in the preceding chapter, in this chapter I will focus attention on the debates, issues and processes that have led to the introduction of fishing regulations in the Okavango Delta fishery, and the outcomes for access to and control over fish, and for fishing practice in general. This chapter locates the changes in fishing policy and management within wider global discourses and narratives around biodiversity conservation and wetland management. As I argued in Chapter 3, Botswana's policy towards the Okavango Delta has been strategically aligned to that of international conservation organisations, and in this way Botswana's control over the wider basin has been galvanised. Equally, promoting strict conservation in the Okavango Delta is an important part of protecting national economic interests in tourism, which depends almost entirely on an intact ecosystem. Additionally, in line with the Ramsar Convention and the UNCBD's expectations, Botswana has to demonstrate active implementation of conservation policies and programmes in its Ramsar Sites. As part of this biodiversity conservation programme, new fisheries regulations were introduced in May 2008 with financial and technical support from a GEF-funded project and resulted in a myriad of changes to this hitherto unregulated practice. Strictly conserving fish is therefore part of the wider project of protecting the Delta and supporting conservation and tourism interests. As I have argued in previous chapters, tourism and other political-business

interests mediate these processes such that they can advance their individual and group interests. These regulations have thus legitimised one group's privileged access to and control over Okavango fish and other resources, and facilitated a loss of access and control by another. As fishing is a traditional and culturally-embedded practice among Okavango Delta communities, the new changes do not just affect a specific group, but have resulted in a widespread perception of loss of community control over most communal resources in the Okavango Delta.

As a background to the discussion of the new fishing regulations, this chapter begins with a review of government-backed developments in the fishing industry in the 1970s and 1980s that led to the regulation of fish and, in many ways, changed local people's interaction with this resource.

6.2 A renewable source of food and income: the development of the Okavango Delta fishery

Until the 1970s, Botswana's fisheries sector remained traditional, and fisheries exploitation was minimal, save for localised fishing activities in northern Botswana (Okavango Delta and Chobe River). Fishing activities were primarily for household consumption and limited bartering to acquire other goods. A small recreational fishing sector emerged alongside the tourism industry in the 1960s, and these activities were not regulated. In 1975, however, and in line with developing the country's laws and policies, an Act of Parliament was enacted, giving the Minister of Agriculture authority to create regulations to control the use and management of fish. The Act also gave the Minister power to prohibit the use of certain methods and introduce licensing and fees. However, until 2008 a legislative framework was never developed to support the Fish Protection Act of 1975, and no narrative policy existed to guide management of the sector. The 1975 Act was also generally shallow in focus[138] (Government of Botswana 2005: 27).

In 2002, the Ministry of Environment, Wildlife and Tourism (MEWT) was formed, and the Fisheries Division was transferred from the Ministry of Agriculture (MoA) to the Department of Wildlife and National Parks (DWNP) within MEWT. DWNP's mission, as stated on its website, is to:

> …effectively conserve the fish and wildlife of Botswana in consultation with local, regional and international stakeholders for the benefit of present and future generations.[139]

[138] The Act was not accompanied by any narrative policy to outline the government's vision towards fisheries and their use, management and conservation.
[139] http://www.mewt.gov.bw/DWNP/index.php, last accessed on 5 February 2011.

The new Fish Protection Regulations were made public in May 2008 (Republic of Botswana 2008), under the 1992 Wildlife Conservation and National Parks Act (Republic of Botswana 1992). These two developments saw the focus on fish shifting from being simply a source of food to becoming 'wildlife' and thus requiring conservation like all other forms of wildlife. The next section discusses developments that were made in the fisheries sector in the 1980s that resulted in the emergence of a small-scale commercial sector, now an important player in the Okavango Delta fishery.

6.2.1 Development and exploitation of the fishery

At independence, the Botswana government was keen to promote rural development and food security of individual households. The fishing potential of the Okavango Delta and Chobe areas presented an opportunity not available in other, drier parts of the country. The government placed the management of fisheries under the Department of Animal Health and Production (DAHP) within the Ministry of Agriculture, the main focus of which is to develop Botswana's burgeoning livestock sector. Fish, therefore, received minimal attention from the department, and was overshadowed by the more important livestock sector. Nevertheless, as the Okavango fishery was then underutilised, the Fisheries Division's main focus was to promote the utilisation of fish and encourage income generation from its exploitation by rural households, groups and individuals. Government grants and a market for dried salted fish facilitated the emergence of a small-scale commercial fishery that effectively augmented the hitherto prevailing subsistence fishery (Mosepele and Ngwenya 2010). In the mid-1970s, through a number of financial support programmes, including the government's Financial Assistance Policy (FAP), Agricultural Extension Small Projects Programme (code name AE10) and loans from the National Development Bank (NDB), the fishing operations of individual fishermen and groups were financed (Kgathi et al. 2005). By 1984, it is estimated that the number of fishers in the Okavango Delta totalled about 500: 150 FAP subsistence fishers and 25 commercial fishers, each with five boys as assistants; 70 AE10-funded fishers; approximately 300 children; and fishers using traditional gear (i.e. baskets, weirs, spears etc.) (Norplan 1985, cited in Mosepele and Ngwenya 2010: 15).

Through NDB loans, fishers were assisted in purchasing modern fishing equipment such as engine-powered boats and gill-nets. Successful applicants (all men) went through a government-provided training course on gear technology and post-harvest preservation (Mosepele et al. 2007; Mmopelwa et al. 2009). The government also provided a market for dried salted fish. The market emerged when the government integrated fish into the school-feeding programme in the northern parts of the country during the 1980s drought period and therefore purchased fish from local fishers. All these

developments increased the number of total fishers in the Okavango Delta from about 500-700 to about 5000 by the mid-1990s (Kgathi et al. 2005). Although the income-generating capacity of a few fishers was increased, the developments did not sit very well with the tourism industry, which was hitherto the only industry exploiting fish commercially, through angling safari enterprises. This group would later blame the emergence of a commercial fishing sector as the main source of conflict, over-exploitation and depletion of fish stocks in the Okavango Delta. As one prominent tour operator later put it:

> *It was said privately that when commercial fishing was launched, it was akin to Government sponsoring hunters to buy vehicles, tents, guns and ammunition and telling them they can hunt anything, anywhere, anyhow, anytime* (male owner of a safari company, cited in Biokavango 2007: 24)[140].

By the early 1990s, however, the number of gill-net fishers in the Okavango had decreased due to a collage of factors, ranging from the collapse of fisher groups formed during the funding programmes, to environmental change-related constraints. According to Mosepele and Ngwenya (2010), lack of cooperation among members of fisher groups, financial mismanagement and declining water levels contributed to the breakdown of many AE10 fishing operations. The drying up of Lake Ngami from the early 1980s until 2004 (Ramberg et al. 2006) resulted in the decline of the fishing potential in the lower Delta, where the bulk of the fishing was done by AE10 groups.[141] The main problems causing the decline of fishing activities in the Okavango Delta have, however, been market-related, and these remain problems to date. The main obstacle was the discontinuation of the government dried salted fish market at the end of the 1980s (Government of Botswana 2005). The majority of groups and individuals funded through the above-mentioned financial schemes were located on the western side of the Delta, where electricity and an all-weather road are present. Transportation problems in taking fresh fish to the market; limited local buying power, and hence the need to transport the product to distant markets; and financial problems and difficulties in raising the required contribution for their grants became the new constraints in the commercialisation of the Okavango fishery (Mosepele and Ngwenya 2010), and these problems were more significant for those located on the eastern side of the Panhandle, where communications and infrastructure are lacking. The collapse of the salted fish market and the subsequent emergence of high capital/frozen products in the mid-1990s meant that it became difficult for new entrants into the fishery (Kgathi et al. 2005:75). Historically there have been only two cold storage facilities in

[140] In a letter presented at a stakeholder workshop conducted by the GEF/UNDP Biokavango Project in Shakawe on 22 February 2007. The letter was attached to the workshop proceedings as part of the contribution from stakeholders.
[141] Lake Ngami filled again in 2004 when the direction of the outflow from the Delta changed to take a westerly direction, and the lake has been receiving water annually since (Wolski and Murray-Hudson 2008).

the whole of the Okavango Delta, and only one, located in Samochima in the western Okavango, remains operational, while the Ngarange (eastern Panhandle) storage facility has been non-operational since the late 1990s (Mosepele and Ngwenya 2010). This has meant that the Okavango fishery has remained artisanal, with a small-scale commercial gill-net fishery (Kgathi et al. 2005). Full-time commercial fishers, who are active roughly eight hours a day for eight months of the year, are estimated at about 40 in total (Mosepele et al. 2009: 59).[142]

The introduction of modern technology for exploiting fish and a market for trading it have since changed local people's relationship with this resource. Commercial exploitation of fish now meant that it was more than just food, and the fishing practice was more than just a cultural expression for some groups and individuals, but also a source of cash income that some perceived as a basis of employment. During fieldwork, some fishers (albeit very few) noted having given up other livelihood activities to concentrate on fishing. This is not to suggest that commercial fishing replaced other local livelihood activities, as a lot of fishers are still farmers and hold jobs in the formal and informal sectors. Taking up commercial fishing, however, is labour-intensive, and is a time-consuming activity that requires commitment and resources, meaning that less time and resources are allocated to other activities.[143] Environmental policies have also reduced the viability of other core livelihood activities, in particular livestock farming and the use of wildlife. In fact, the second wave of an increase in commercial gill-net fishing enterprises in the Okavango Delta happened in 1995/96 when the entire Okavango cattle population was culled due to cattle-lung disease. This cull meant that a lot of households had to resort to other income-generating activities, and fishing was one of the more reliable options for many men and male-headed households. As a renewable resource, fish is a much more stable source of both food and income, as its availability is only dependent on the flood dynamics of the Okavango, which occur annually in the upper Delta (Panhandle). Financial compensation from cattle culling facilitated the entry of a number of subsistence fishers into the commercial fishery, as they were able to purchase modern fishing technology and equipment and exploit fish for the market. One of these fishers is Mr. Salepito Sebupiwa. In his mid-forties, he is unmarried but lives with his partner and they have two children. He is one of the relatively successful fishers in Seronga:

> *He started fishing for subsistence in 1992 when he lost his job in Maun. He also used to sell surplus by going around people's houses. His brother was a commercial fisher and he was doing well, so he*

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[142] Also from an interview with Mr. Ketlhatlogile Mosepele, Research Fellow, Okavango Research Institute, Maun, 8 January 2010.
[143] Focus Group Discussion with commercial fishers, Seronga, 20 September 2008.

> *also decided to go into commercial fishing. He used the cash compensation from the 1995/96 cattle culling to purchase fishing equipment. He did not receive any of the funding and training from the Ministry of Agriculture in the 1980s as he was not a fisher at the time. He now owns a 40cc engine-powered boat, a fibreglass boat and seven fishing nets. He has no assistants, so works alone and fishes on a full-time basis. He also owns a deep freezer that he operates with a petrol-powered generator. He sells his fish in the village and can make up to P5000 (US$766) during a good fishing season but he uses most of this money to purchase fuel. He sometimes cuts grass and reeds, and also transports them for other cutters. He is also not a member of the Seronga Fishermen Association as he does not see the benefits of becoming one. Before the method of fishing at night was outlawed in May 2008 he used to practice it, and often goes on fishing trips for an average of a week at a time. He reckons many of the new laws are inappropriate and present a challenge for fishing households* (Interview with Salepito Sebupiwa, 13 September 2008).

Mr Sebupiwa is not a typical commercial fisherman, as most of them do not fish full-time, but instead hold other jobs and also engage in subsistence farming. This is the case for Mr. Pitso Enametse, the Chairperson of the Seronga Fishermen Association, who is more typical of the fisherfolk in the Delta:

> *Mr. Pitso is in his sixties and works as a night watchman/security guard at the local school. He is also a smallholder farmer with a few cattle and a four-hectare crop field. He does not own an engine-powered boat but uses a wooden boat and a fibreglass boat. He also has three fishing nets. Prior to the introduction of modern fishing equipment in the 1980s, and before becoming a commercial fisher, he fished with a traditional hook and line. Mr Pitso concentrates on fishing during the part of the year that he is not busy with farming, but at the beginning of the ploughing season (September/October) he stops fishing and concentrates on preparing the field for ploughing and renewing the enclosure around the fields (usually made using acacia tree branches) to stop livestock and wild animals from raiding them. With the introduction of the closed season in January/February, he can no longer rely on fishing to raise household income before the harvesting season, which is also the time when food is scarce, and children have to go back to school (January). As the chairperson of Seronga Fishermen Association, he explains that when the conflicts between the different fishing sectors intensified, they approached the Fisheries Division for help, but he contends that they did not request the introduction of strict laws that also impact on everybody else* (Interview with Mr Pitso Enametse, commercial fisher and chairperson of Seronga Fishermen Association, 13 September 2008).

The emergence of a new fishing sub-sector in the Okavango fishery in the 1980s and the increase in the number of fishers in the mid-1990s increased conflicts over access to and control over fish resources. The most serious of these are between the tourism-based recreational fishery (angling safari) and the citizen-based small-scale commercial gill-net fishery. These conflicts drew the attention of decision-makers and have been cited as the main reason for the introduction of regulations. As the wildlife department (DWNP) states on its website:

> About 80% of the country's fish output is from the Okavango aquatic system where conflict between commercial fishers and recreational fishing promoters is a real concern.[144]

[144] http://www.mewt.gov.bw/DWNP/article.php?id_mnu=199, last accessed on 5 February 2011.

The 2008 regulations categorise the Okavango Delta fishers into the three broad categories: subsistence, commercial and recreational. As will be shown below, the introduction of new regulations has characterised the small-scale commercial fishery as if it is a highly sophisticated and profitable activity and introduces strict controls over the activities of this sub-sector.

Figure 11: Commercial fishers with their catch of the day.

6.2.2 Redefining the fishery sector: the May 2008 Fish Protection Regulations

Prior to the development of the commercial fishery, there existed only two identifiable groups of fishers in the Okavango Delta; the local traditional subsistence fishery and the modern tourism-based angling fishery, engaged in mostly by tourists and white residents and citizens. Although traditional subsistence fishers also fished for recreation and consumed what they caught at the household level, they also traded their catch locally for other goods, especially during lean times. Today, young local boys and adult men still fish for recreation, but this practice cannot be separated from the traditional practice of fishing for subsistence, and it is also a cultural expression. The new 'commercial' fishing sub-sector that introduced modern fishing gear to the hitherto largely traditional local fishing practices added a third sub-sector to the Delta fishery. This 'new' user was

for a long time not officially referred to as 'commercial' until the May 2008 regulations classified it as such, based solely on the methods used to exploit fish: in this case, factory-made modern gill-nets. The identities of and differences between these sectors are briefly discussed below.

6.2.2.1 Subsistence fishery

This sector was discussed in detail in the preceding chapter. Its main features are its traditional character and gender dynamics. It is a seasonal activity carried out primarily for household consumption, and women and children comprise a large part, with women accounting for as much as 44% of the fishers in this group (Mosepele et al. 2007: 294). As discussed in Chapter 5, most households historically engaged in fishing. This was and is still done by men, women and children of all ages. Young and adult men would normally fish on their own while women and children fish seasonally and opportunistically (e.g. when they visit the river and floodplains to carry out other activities such as fetching water) (Mmopelwa et al. 2009).[145] The traditional subsistence fishery is distinguished from other groups by the methods employed in the fishing activity. This 'traditional' fishing gear primarily includes fishing baskets used mostly by women and girls; traditional hooks and lines mostly used by men and boys; fishing traps and spears used by adult men; and mosquito nets and cloths used by women (Ibid). Subsistence fishers are the most populous group of fishers in the Okavango Delta, estimated at about 3000.[146] As most of the traditional gear can only be used during low floods, and only on floodplains, subsistence fishing is seasonal (Mmopelwa et al. 2009). Men fish on the floodplains using wooden canoes and hooks and lines, while women wade into the water with baskets and cloths. However, as I noted in Chapter 5, subsistence fishers have developed strategies such as multiple-gear and post-harvest technology to ensure that they can access fish at other times of the year (Mmopelwa et al. 2009: 125). According to Mosepele et al. (2003), basket fishers use baskets and other traditional gear on the fringes of seasonally-flooded floodplains and lagoons. They also catch small quantities of juvenile *tilapia* that would otherwise be caught up in drying floodplains. The basket fishing method usually peaks in the summer and this group mainly exploits small-sized species. The new regulations do not affect subsistence fishing in particular, except for banning the use of mosquito nets for fishing. They also do not acknowledge subsistence fishers as a user-group and, as will be discussed later, this has caused confusion as to which group individual fishers belong to, especially adult men who tend to fish for subsistence but use similar fishing methods as commercial fishers, and also occasionally sell their catch.

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[145] Kebatshogile Moabi, subsistence fisher, interview, Seronga, 20 September 2008.
[146] Research Fellow, Okavango Research Institute, interview, 8 January 2010.

6.2.2.2 Commercial gill-net fishery

Compared to other African wetlands, the commercial fishery of the Okavango is extremely small-scale, and is engaged in mostly by local residents. It is also not economically viable in the long-term (Mosepele and Ngwenya 2010), making it difficult for outsiders to enter the sector. As already mentioned, the total number of pure commercial fishers is around 40, out of a total of about 400 gill-net fishers (Mosepele et al. 2007: 294). According to fisheries scientists at the Okavango Research Institute, it is difficult to estimate the real economic value of the Okavango Delta fishery as no direct research has been conducted on the socio-economic value of the fishery, partly due to its small-scale and artisanal nature. Some partial estimates have, however, been made, and the first results that are close to comprehensive were published in 2010 by ORI[147] (Mosepele and Ngwenya 2010). Mosepele (2001, cited in Kgathi et al. 2005: 73) estimated the total economic turnover of the Okavango fishery at about P1.5 million (about US$250,000) in 2001 prices. In 2003, the estimated potential total yield was P13.5 million (US$2.3 million) per annum (assuming a 2003 fish price of P6/kg, or about US$1/kg (Kgathi et al. 2005: 73). According to the 2010 report (Mosepele and Ngwenya 2010: 25), investments in and revenues from the commercial fishing sector have fluctuated since its development in the 1980s for a number of reasons. Investments increased from just below P100,000 (about US$15,000) in 1994/95 to approximately P450,000 (about US$66,000) between 1996 and 1998, corresponding with the outbreak of the cattle-lung disease (CBPP), at which time people resorted to fishing due to increased cash flow into the region as compensation for cattle culling was paid out to farmers. Total investments increased exponentially between 1995/96 and 1996/97, after which they levelled out and then started decreasing (Mosepele and Ngwenya 2010: 25). Equally, revenues increased steadily from 1994/95, and peaked in 1997/98 at approximately P1.2 million (US$181,000) (Ibid).

Decreased catches are attributed to a slump in revenues between 1997/98 and 1998/99 as farmers restocked their cattle and decreased their fishing efforts. Revenues increased again in 1998/99 and 1999/2000, which likely corresponds to the time when most of the fisher-cattle farmers resumed their normal fishing routine after making sure that their cattle had acclimatised to their new area.[148] Mosepele (2001, cited in Mosepele and Ngwenya 2010: 25) estimated a total investment between 1994 and 1999 of about P1.4 million (about US$200,000), while total revenues around the same time were put at P4.3 million (about US$630,000). Although very generalised, the estimates show

[147] The study *Socio-economic Survey of Commercial Fishing in the Okavango Delta*, Series No. 7, is therefore significantly relied upon for information on economic trends in the Okavango Delta fishery.

[148] The Okavango herd was restocked using cattle from other parts of the country, and, in some cases, hybrids that struggled to adjust to the Okavango climate.

that commercial gill-net fishing in the Okavango means that the average fisher earns about P660 per month (about US$95), just P100 less than the lowest salary in the Government (Mosepele and Ngwenya 2010: 26). Turpie et al. (2006: 49) also observe that households derive a total value of P2 million (US$302,199.99)[149] from gill-net fishing (commercial and non-commercial).[150] In 2004, the Biokavango Project estimated the total fish catch to be in the order of 500-800 tonnes per annum (valued at US$1.3-2.1 million), which, at 6-10% of the standing stock, is considered sustainable (UNDP 2004: 12).

Gill-net fishing is practised by adult men only, as women are considered too *'weak to work in the dangerous and strong waters'* of the Okavango, among other cultural expectations that prevent women from engaging in certain tasks.[151] This belief works as a cultural barrier for women to enter commercial or gill-net fishing. However, there are no specific cultural taboos preventing women from engaging in commercial fishing, and in fact some women express an interest in doing so, but lack the financial resources and technical skills. As discussed above, much of the financial and technical assistance that facilitated the development of commercial fishing in the 1980s did not cover women. The Fisheries Division maintains that it is encouraging all, regardless of gender, to engage in commercial fishing, but that women lack interest, and are also constrained by culture.[152]

Commercial fishing is defined by the new 2008 regulations as: 'the catching of fish by the use of factory made gill-nets or any gill-net made out of factory materials such as leads, twines, corks, etc.' (Republic of Botswana 2008: 2). A small percentage of commercial fishers also use engine-powered boats to access parts of the river and Delta that are usually not accessible by wooden or fibreglass boats. Some also use modern rods and lines to supplement their gill-net catch.[153] Most of the fishers who fall into this category used to practise fishing at a subsistence level and sometimes alternate between the two categories. Non-citizens are prohibited from commercial fishing, and so are citizens below the age of 18. Many young boys, however, fish with traditional hooks and lines and sell some of their catch.[154] Only gill-nets of a maximum total length of 150 metres are allowed. The implications of this categorisation and restriction of methods used are discussed below. The following pictures show the different equipment used by recreational, commercial and subsistence fishers.

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[149] http://www.xe.com/ucc/convert/?Amount=2000000&From=BWP&To=USD, 26 June 2011.
[150] The study did not differentiate between commercial and subsistence fishing.
[151] Focus Group Discussion with Commercial Fishers, Seronga, 20 September 2008.
[152] Senior Fisheries Officer, Maun, interview, 2 April 2009.
[153] Observations and interview with commercial fisher, 13 September 2008.
[154] Observations.

Figure 12: Engine-powered boat used by a few, more well-off commercial fishers in the Okavango Delta.

Figure 13: Traditional wooden canoes or 'mekoro', used by the majority of subsistence and commercial fishers in the Okavango Delta.

Figure 14: Larger boats used by tour operators, including fishing lodges for angling and fishing competitions.

Figure 15: House-boats are also used as mobile accommodation for anglers and birdwatchers in the Okavango Delta; several of these are permanently docked in different parts of the Panhandle.

6.2.2.3 Problems with official classifications: subsistence vs. commercial

The official classifications of the fishery have already encountered problems and caused minor conflicts in the sector. One of the significant issues, as revealed by interviews, is the ambiguity in the distinctions made between commercial fishers and subsistence fishers. Commercial gill-net fishers argue that the differentiation based on the methods used is unfair, as sometimes the so-called subsistence fishers catch as much, or more fish than the commercial fishers who use gill-nets, and that often hook and line fishers (subsistence) also sell some of their catch, but are not labelled commercial fishers simply because they do not use gill-nets.[155] To the commercial gill-net fishers, there is no distinction between them and somebody fishing using a hook and line, if the end-goal is to sell some or all of the catch. In addition, subsistence fishers occasionally use gill-nets, or at least they did prior to the introduction of the regulations, and many still occasionally do so. During the first few months after the introduction of the regulations, there was widespread belief within the communities that everyone required a permit for fishing, and so people assumed that all fishing activities were regulated, resulting in reduced fishing activity:

> *People here do not really understand them* [the regulations]: *many think there is a tax on fishing* (Commercial fisher, interview, Seronga, 13 September 2008).

This classification has also caused confusion within the Fisheries Division itself with regard to issuing licenses, as many fishers are not clear as to whom the regulations apply to, and therefore attempt to purchase licences unnecessarily, as shown by one case:

> During an interview with the Fisheries Division (Maun) today, an adult man was referred to the office to ask whether he requires a license to fish using the hook and line method. The response was *'No, you do not need a license as you are fishing for subsistence'*. He then proceeded to clarify that he is in fact fishing in order to sell his catch. After careful thought, the fisheries officer said: *'no, you do not need a license'*. After the man left we naturally discussed this issue: I asked what the difference was between the man who had just left, and one who happens to own a gill-net, if they both fished for the same reasons. To this, the officer replied: *'Well, the regulations are not perfect, I cannot tell this man not to fish with a hook and line if he intends to sell, I also cannot tell him not to sell his catch; as long as he sells fish that were not caught using gill-net, then we cannot label him a commercial fisherman and make him buy a license. The law is not perfect; there are loopholes'* (Notes from the field, 2 April 2009).

For commercial fishers, the discontent with this classification is largely based on the issue of licensing, as the commercial fishing license has to be bought for P200 (about US$32).[156] At the time of conducting fieldwork, the Fisheries Division had not come up with a strategy to address this

[155] Commercial fisher, interview, 13 September 2008, and Focus Group Discussion with commercial fishers, 20 September 2008.
[156] As at February 2011.

discrepancy and noted that if necessary, this would be dealt with at the time of the policy review, usually conducted within a minimum of five years of implementation.

Another major change to the fishery was the introduction of a seasonal ban on fishing. Although the practice of fishing itself was always seasonal, is characterised by inter-annual variability in that different fishers fish at different times of the year, and there have always been times of the year when not much fishing was carried out (e.g. ploughing season), an official ban on fishing for two months of the year was seen as a major change and a significant political statement to fishers, who had always perceived fish as a readily-available and accessible resource. Historically, the fishing effort fluctuated at different times of the year depending on the availability of fish, the extent of the flood and the importance of other seasonal livelihood activities such as farming and grass and reed collection. A few commercial fishers, however, claim that they do not pursue any other activities besides fishing, and therefore do not welcome the seasonal fishing ban.[157] Commercial fishing activities are not affected by the flood as much as subsistence fishing activities, since commercial fishers use different equipment for different parts of the Delta (boats and gill-nets for deep waters and hooks and lines for shallower waters) and can access an expansive area to catch fish, while subsistence fishers keep to shallower floodplains waters that dry out part of the year. That said, the 40 or so full-time commercial fishers in the Okavango are only active on average eight months of the year (Kgathi et al. 2005: 75).[158] The fishing ban is active between January 1 until the end of February, and carries a maximum penalty of P500 (US$73), 12 months' imprisonment or both on second offence. The penalty for a first offence is a fine of P200 (US$30) or three months' imprisonment. A second offence may also result in the cancellation of a licence or permit on conviction, and a ban from fishing for two open seasons (two years). The closed season is now generally accepted, but local fishers still challenge its scientific basis, and opinions are mixed. The Fisheries Division contends that fish breed before the floods arrive (around March in the upstream Panhandle area and around July/August in the downstream distal areas of the Delta), while local fishers argue that fish do not breed at this time and that in fact the Fisheries Division does not understand the behaviour of fish.[159] As noted by a young man during a focus group discussion:

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[157] Focus Group Discussion with members of Boiteko Trust, Samochima, 12 September 2008. Fishermen at the Samochima depot are more specialised as they have infrastructure that allows them to concentrate on fishing as a primary source of employment and income. The depot is fitted with cold storage facilities and staff employed specifically for marketing the fish.

[158] Interview with Mr. Keta Mosepele, Research Fellow, Okavango Research Institute, 8 January 2010.

[159] Focus Group Discussion with commercial fishers, Seronga, 20 September 2008, and Focus Group Discussion with members of Boiteko Trust, Samochima, 12 September 2008.

> *The open and closed season rule is based on lack of understanding by the Fisheries Division because fish are always available; stocks are controlled by flood levels, nothing else*.[160]

Scientific research has also concluded that the flood cycle tends to be a dominating factor in the fish communities found at any one site (Tweddle et al. 2003: 100). During fishing stakeholder consultations in February 2007, it was agreed with the Fisheries Division that the fishing ban would be set at October to December, which is when locals believe fish breed, but this decision was changed when the final regulations were published. Reports indicate that individuals within the tourism industry influenced the decision to change the fishing ban to the January/February period, as the October/December period is a peak season for angling activities. This allegation was also confirmed by some officers within the Department of Wildlife and National Parks.

The Fisheries Division, however, contends that the January/February ban is actually a more sensible time, as this is when most locals are engaged in farming, *'which fishing activities should not be seen to discourage but instead encourage fishers to do'*.[161] Local fishers, on the other hand, argue that the Fisheries Division favours the tourism industry as it enriches the government. Other fishers point out that they got involved in fishing after abandoning farming because it was unproductive, and therefore they should be allowed to continue fishing all year round as fishing is their only source of employment and income:

> *January is the time when our children go back to school and we have to buy new school uniforms and pay fees, how will we send our children back to school if we cannot fish?* (Member of Boiteko Trust, Samochima, 12 September 2008).

Some of the locals argue that the current timing of the seasonal ban does not make much difference:

> *During the closed season the catch would generally be low anyway, so having a closed season at that time does not make much difference* (Fish saleswoman, Seronga, interview, 6 March 2009).[162]

Overall, however, commercial fishers contend that the closed season disadvantages them as it puts a temporary halt to their income-generation activities. Those in the tourism industry are of the view that it is necessary to control the practices of some commercial fishers.[163] Some scientists at ORI argue that a fishing ban is not necessary as the Okavango fishery is already self-regulating as the fishing practices (e.g. traditional methods) are largely inefficient and crude, and the activity itself is seasonal (Mosepele 2008: 58).[164] Historically, little or no fishing was done during the rainy season

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[160] Focus Group Discussion with commercial fishers, Seronga, 20 September 2008
[161] Chief Wildlife Officer, Fisheries Division, interview, 15 April 2009.
[162] The husband of this woman was arrested in January 2009 for fishing during the closed season but was released with a warning. He also admitted to fishing at night, a practice that is also now illegal.
[163] Mr. Jan Drotsky, fishing lodge owner, interview, 16 January 2010.
[164] Mr. Keta Mosepele, interview, 8 January 2010.

(October – December); this is both a busy time for farmers and a peak spawning season for fish. This could be the reason why locals suggested that this be set as the closed season. The ploughing season corresponds with the hungry season as there is usually no farm produce to consume at this time, and wild foods are often relied upon to supplement diets.

6.2.3.4 Recreational fishery/angling safari

Article 2 of the 2008 regulations defines recreational fishing as 'fishing done on the basis of leisure and sport, using rod and line' (Republic of Botswana 2008: 2). As noted above, it is a predominantly white resident/citizen and tourist activity engaged in as a sport, mainly provided as a tourism package. A few fishing lodges and fishing boats offer angling safari packages to tourists at high prices.[165] This is a largely non-consumptive activity as most of the catch is supposedly released back into the river, and only five fish a day per fisher are allowed to be kept for consumption. Tour operators and fishing lodges also stage annual fishing competitions, and these generate significant profit and are popular among tourists. Recent revenue profit estimates do not exist, but in 1995, prior to the Okavango tourism boom, the recreational fishery was estimated to be generating, through tourist fishing activities, approximately P750,000 or US$125,000 a year. As per the new regulations, citizens who fish for recreation are charged a fee of P30 (US$5) for a monthly license or P360 (US$53) for an annual license, while non-citizens are charged P300 (US$44) for a monthly license and P600 (US$88) for an annual license. Fishing camps and lodges are charged an annual fee of P3000 (US$439) for a permit. To stage fishing competitions, a permit is issued on payment of P5000 (US$731). These competitions usually employ large engine-powered boats for navigation, the use of which has been highly criticised both by conservationists and ecologists (Alonso and Nordin 2003: 26) and locals, but remains uncontrolled. Recreational fishers or anglers target three fish species: tiger-fish, tilapia (bream) and catfish, but up to 17 species can be fished in the upper Delta. Although a clear user-group, fishing camp owners largely act on an individual basis, and most refuse to provide information on their activities.[166] Both the Fisheries Division and the ORI have expressed difficulty in working with tour operators who offer angling safari services: the institutions are unable to access information on fish catches to analyse the economic performance of the sub-sector, as it remains closed to those outside tourism.[167] The government has to date failed to monitor the activities of this sector. This group of fishers is the main competitor to commercial fishers, and the two are in a long-standing conflict as will be discussed in the next section.

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[165] E.g. US$625/day to hire a self-catered boat http://www.afrizim.com/Houseboats/Okavango/Ngwesi.asp (last accessed 3 November 2010).
[166] Research Fellow, ORI, interview, 8 January 2010.
[167] Ibid. Also interview with Senior Fisheries Officer, Shakawe, 10 September 2008.

6.3 Contestations over Okavango fish: ongoing conflicts between commercial fishers and the tourism industry

With the small-scale commercialisation of fishing at the community level, there arose competition and conflicts over the use of fisheries. The main conflicts are between the recreational/angling safari sector and the commercial gill-net fishing sector, and are over user rights and access, as identified by various studies (Alonso and Nordin 2003; Government of Botswana 2008a; Mmopelwa et al. 2009; Mosepele and Ngwenya 2010), including this one. Some minor concerns have also been raised by commercial and subsistence fishers regarding each other, mostly over one group's fishing practices that were deemed unacceptable (e.g. fishing with mosquito nets and fishing at night). Commercial fishers accuse subsistence fisherfolk of using methods and equipment (e.g. traditional fishing baskets and mosquito nets) that target small fish. They perceive this as a waste, as these fish could be left to mature to be harvested later and sold at a higher price. Experts, however, dispute this claim by arguing that said methods actually target smaller *species* of fish and thus pose no competition for commercial or recreational fishers at all (Mmopelwa et al. 2009; Mosepele et al. 2007).[168] In general, these two groups of fishers barely interact, as subsistence fishers mostly fish during the low flood season by which time the commercial fishers have already moved back to the main river channel to target larger species that would no longer be available on the floodplains when the floods recede. Subsistence fisherfolk, therefore, mostly catch small fish species that are usually found on the floodplains or remain trapped there when the floodplains get cut off from the main river channel on desiccation (Mmopelwa et al. 2009).

After the introduction of regulations, most of the resentment from the commercial fishers towards subsistence fishers was about the amount of fish that the subsistence fishers caught (especially men), and in particular about the sale of fish by subsistence fishers. Commercial fishers therefore view subsistence fishers who sell as unfair competition. Some commercial fishers also raised concerns over the practices of other commercial fishers (especially those who refused to join the fishermen's committees), particularly that of active fishing at night. Despite this, most problems within the commercial fishing sector are discussed and settled among members of the different fishermen's committees at the village level (e.g. Seronga Fishermen Association) and the main Okavango Fishermen Association (OFA), whose membership initially included the angling/tourism sector. Dialogue between the recreational and commercial sectors was, however, difficult until the

[168] Senior Fisheries Officer, Shakawe, interview, 10 September 2008.

GEF/UNDP Biokavango Project, and as the less influential of the two sectors, the commercial fishing sector has been disadvantaged in influencing policy decisions in comparison to the tourism industry. The main conflicts between the recreational and commercial sectors remain over user-rights and access to fishing grounds, as well as competition over the same species and the timing of both sub-sectors' activities.[169] These issues are discussed below.

6.3.1 Conflicts over user rights and access

According to the report of the Okavango Delta Management Plan (ODMP) (Government of Botswana 2008a), the user-rights conflict principally emanates from a desire by tourism concessionaires to maintain exclusive rights over fishing for their clients, thereby denying local fishermen what they see as their traditional rights of access to certain areas and resources within the concession areas (or WMAs). This issue is well captured by a statement made by fishing lodge-owners in a previous study:

> Commercial fishermen take advantage of lodge owners clearing access channels to lagoons, setting nets there before the tour operator has a chance to take angling clients there (cited in Tweddle et al 2003: 102).

This has often resulted in the tour operators destroying the nets set by commercial fishers (Ibid). Local fishers, on the other hand, see these fishing grounds as theirs and perceive the actions of fishing lodge owners/tour operators as unfair:

> *Tourist lodges are located on areas we historically used as fishing grounds. When we fish close to these lodges, the tour operators chase us away. We're expected to get permission from the lodge owners, but we fished here long before they came* (Commercial fisher, interview, Seronga, 13 September 2008).

Racial differences, as well as the desire to deliver an unspoilt wilderness package for clients have been cited as contributory factors in the tourism sector's discontent with the activities of local resource-users:

> *Tour operators just don't want to see local fishers or their nets because they think their clients want to experience a pure wilderness when they are out in the Delta lodges and camps. The sight of a fishing net, or a fisherman, or even a black person, spoils the experience for the tourists who have paid a lot of money to be away from all that* (Biokavango Project Officer, interview, Shakawe, 8 September 2008).
>
> *Tour operators do not like commercial fishers, they say we disturb their clients and chase us away from fishing close to their lodges. Some of these tour operators chase us away because we are black and they do not want us coming near their clients. The DWNP has been told about this but nothing*

[169] Senior Fisheries Officer, Shakawe, interview, 10 September 2008, and Focus Group Discussion with commercial fishers, Seronga (20 September 2008) and Samochima (12 September 2008).

> *has been done about it* (focus group discussion with commercial fishers, Seronga, 20 September 2008).

The April 2000 National Parks and Game Reserves Regulations outlawed fishing within protected areas, including the Moremi Game Reserve. The 2008 ODMP (Government of Botswana 2008a) final report made recommendations that the traditional user-rights of the locals be restored in these areas, but this is so far not under any consideration.[170] This means that all fishing activities are concentrated in the northern parts of the Delta, where most of the population lives, and where the recreational fishing activities are also based. The angling tourism community has pushed for the lifting of the fishing ban within the Moremi Game Reserve, as there, they argue, are the best sites for large bream, targeted by anglers (Tweddle et al. 2003: 104). The tourism industry contends that angling should be allowed within protected areas as is it non-abstractive (Ibid). The Moremi Game Reserve occupies about 20% of the Okavango Delta and is viewed by the tourism industry as a potentially exclusive angling site (Government of Botswana 2008a: 56).

Most tourism facilities in the Delta are located on the riverfront, historical fishing grounds and landing sites for the local fishers. As discussed in Chapter 5, competition over riverfront property has increased animosity between the land authorities in the region (the Land Board) and the commercial fishers, and between the tour operators and commercial fishers, but also between the Department of Tourism and the Land Boards. Local fishers would like their traditional user-rights returned so they can fish in these areas, while the tour operators would like exclusive use of these areas for their clients. As the local authority holding land and administering it on behalf of the community, the Land Board is caught between being accountable to the community and also having to satisfy the interests of the Department of Tourism, a powerful central government institution that lobbies for prime property for the tourism industry. In the end, locals lose out to the tourism industry.

The preferred time at which different activities take place in the Delta is also a source of conflict. The favoured time for these different, sometimes incompatible, activities occurs within the same period (Government of Botswana 2008a). For instance, tourist lodges prefer to take their clients on morning and evening game drives, as these are the prime game-viewing times, but this is also the time when fishermen prefer to set and retrieve their nets. Interviews revealed that the interactions between the recreational and commercial fishing sub-sectors increase during the low-flood seasons

[170] Senior Fisheries Officer, 15 April 2009.

as both groups concentrate on the main river channel, where commercial fishers mostly fish seasonally when the floodplains dry up. Some tour operators are reported to have placed an unofficial ban on fishing close to their lodges and camps (Thapelo Attorneys undated).[171] Zoning was recommended by a 2003 Conservation International study as a solution to segregate users, but the commercial fishers oppose this, arguing that it will only increase competition and conflict, and fearing that the best fishing sites would be allocated to angling.[172] Instead, the users supported the promotion of conflict resolution mechanisms through which the different fishing groups could negotiate their stakes and settle their differences. Some commercial fishers' basis for opposing zoning is based on the argument that the tour operators should not be allowed to fish outside their lodges because they already have exclusive access to the resource within their properties, which are extensive, while locals only have access to the resource on communal land.[173] Some zoning was, however, carried out in early 2010 when the Biokavango Project introduced a 'Code of Conduct' that also introduced a 100 square metre 'free fishing zone' around tourism properties, as will be discussed later.

6.3.2 Conflicts over target species and stocks

Species of fish targeted by commercial and recreational fishers, as well as their availability, have been a bone of contention in the Okavango Delta fishery. Speculations and accusations abound between the two groups (recreational and commercial) over the state of the resource and the sustainability of each other's activities.

6.3.2.1 Target species

Both groups generally target exactly the same trophy-sized species of fish, such as bream, tigerfish and catfish, which enhances competition. According to Mosepele (2007: 1), approximately 20-50 fishers per day fish for recreation with rods and lines, and normally hunt for trophy-sized – the bigger the better – fish. These fishers have a high preference for tigerfish and large-mouth tilapias (*Serranochromis*). Recreational fishing is carried out mostly in lagoons and on the main river channel, especially in the Upper Panhandle area around Shakawe, where species diversity is high and tigerfish are particularly plentiful (Alonso and Nordin 2003: 24). This is also where most of the fishing lodges are located, including the floating fishing boats. The availability of tigerfish in other parts of the Delta is low, making the Upper Panhandle the focal site for this species, and, as a result, for angling activities (Ibid). Anglers target the *Serranochromis robustus* or yellowbelly bream and

[171] Consultancy Report to the Biokavango Project, sourced from the consultant.
[172] Commercial fisher, interview, 13 September 2008.
[173] Chairperson of the Okavango Fishermen Association, interview, 12 September 2008.

other large bream species to the same extent as the commercial fishers. Commercial fishers also target other popular food fishes, mainly tilapia species (*Oreochromis* and *Tilapia)* (Mosepele 2007: 1).

This targeting of the same species has increased interactions between the two fishing groups, particularly during the low flood season, when the fishing grounds shrink. As already noted, when floods recede, commercial fishers move into the interior of the Delta, where anglers always fish, therefore increasing the number of fishers in the same area. These increased interactions have meant that both groups compete for the best fishing sites at the same time. Due to the non-abstractive nature of the angling method, anglers and those in the angling business perceive commercial fishing as detrimental to the fish stocks, as commercial fishing *is* abstractive. This has led to widespread speculation among the angling and tourism sectors that commercial fishers are overfishing the Delta, and that their activities are depleting the fish stocks. In some cases, it has been suggested that certain species have been completely wiped out due to the use of gill-nets.

6.3.2.2 The overfishing narrative

The overfishing narrative has proven so powerful in the Okavango Delta Panhandle that the government, scientists and conservation organisations (e.g. Conservation International) have responded through periodic scientific investigations and, lately, regulations. Despite conclusions by locals (both fishers and non-fishers), the Fisheries Division and scientific research that there is no overfishing in the Delta, this view holds among those in the angling sub-sector. Many of them have called for management interventions that would introduce a limitation on catch and a ban on netting at specific sites if depletion of the resource is to be controlled. As noted by a fishing lodge owner:

> *There is pressure on fisheries now, mostly because of netting activities by commercial fishers. Some parts of the Panhandle are no longer profitable to fish because the local fishermen have depleted most of the fish, the thin faced tilapia has completely disappeared* (Interview, 16 January 2010).

'A total fishing ban' in some parts of the Delta (e.g. Samochima Lagoon) (Biokavango 2007: 24) was suggested by another lodge owner at a meeting in Shakawe in February 2007:

> *It is the persistent commercial fishermen that cause the heaviest depredation, and until regulations come into effect or until Samochima Lagoon is closed to netting, conflict will continue.*

Some in the tourism industry are convinced that local fishers do not understand the behaviour of fish, are fishing purely for profit and as a result try to maximise their catch at the expense of other users and the sustainability of the environment:

> *Local commercial fishermen don't understand the way fish behave because they are not educated, so they practise unsustainable fishing, but as you and I know this behaviour has depleted fish all over*

> *the world, like in England where you live. This then penalises everybody else* [angling and subsistence fishing] *because right now the regulations have been introduced, and this is affecting our business, even though we do not catch fish for sale* (Fishing lodge owner, interview, 16 January 2010).

Some have called for strict conservation policies to be applied to fisheries resource management. Netting in particular is an unacceptable fishing method to many in the tourism industry:

> Areas of special significance need to be set aside and protected. Considering that all communities in and around Okavango do fishing, it would be politically delicate/sensitive and hard to enforce a total fishing ban. Rather, identify conflict hotspots (Samochima, Nxamasere, Kanana and others) prime breeding/habitat lagoons, etc., and disallow netting (Tour operator, letter to the Biokavango Project, dated 22 February 2007).

Collaborative research between the ORI and the Fisheries Division (Mosepele 2008; Kgathi et al. 2005; Ramberg and Van der Waal 1997, cited in Tweddle et al. 2003; Biokavango 2004) and other independent studies, as well as interviews for this study have concluded that there is no overfishing in the Okavango Delta. Numerous scientific experiments have been conducted using conventional methods for sampling fish populations and species in the Delta, the largest of which was conducted by Tweddle et al. (2003) as part of Conservation International's Rapid Assessment Programme. This study brought together government fisheries officers and natural scientists from local, regional and international scientific institutions, including the Council for Scientific and Industrial Research (CSIR, South Africa), the South African Institute for Aquatic Biodiversity and several universities in South Africa and Europe. The results show that the diversity of species in the Okavango Delta is still very high, and the populations of any species have not declined. Despite this, the overfishing narrative holds, and interviews held as recently as January 2010 with those in the tourism industry yielded responses no different from those made prior to the studies. Commercial fishing is regarded by many as unwelcome competition, and they have therefore aligned their views with the biodiversity degradation narratives. The President of Botswana is a board member of Conservation International, and in this way conservation interests have strong representation in the person of the President and, through him, the government apparatus. Furthermore, because those in the tourism industry have political and financial power, they have been able to influence policy decisions at the highest levels. A number of off-the-record interviews revealed incidences where the President was directly contacted to influence certain decisions about the use of natural resources in the Okavango Delta. Picard (1980), Good (2008) and Nelson (2010) also highlight the dynamics surrounding power and policy in many parts of Africa, including Botswana. In Botswana, all executive and political power is concentrated in the President, who is constitutionally empowered to decide alone, and often the President's word is final and cannot be challenged. As Good (2008: 39-40) notes:

'Presidential powers are not least important where democratic process is concerned, since an array of legal instruments accords the President direct and sometimes personal control over opinion and information'.

The arguments advanced by the tourism industry against fishing, particularly those made by the angling sector, resemble those previously made against the presence of cattle in the Okavango Delta by some international conservationists and ecologists. These views are not merely about conservation and degradation, but to a large extent about the desire by one group to control another group's access to and use of a resource. Many of those in the tourism industry advocate a 'do not touch' approach to Okavango Delta resources in general, and assume that allocating all the resource for tourism is an ecologically harmless, politically-neutral approach that is, in fact, the only sustainable approach to using the Okavango Delta resources. A lot of those in recreational fishing claim to support the use of fish by local communities for subsistence purposes, but the 'commercial' status of fishing carried out by a few of the locals can hardly be labelled commercial at all. This is the case for those in areas like Seronga (eastern part of the Panhandle) that are located far from reliable markets and cold storage facilities. As Mosepele and Ngwenya explain (2010: 41): 'There is a limited number of commercial fishermen who have enough assets to operate competitively at commercial levels'. They also argue that the largest proportion of commercial fishermen (44.2%) earn between P501-P1000 (US$75-US$151) per month, while 14% earn between P1001-P2000 (US$151.10-302.200) and about 27.9% earn less than P500 (US$75) (Ibid). The majority of commercial fishers in the Seronga area earn between US$75-US$151 per month, and the rest earn less.

Compared to those in medium- to large-scale farming and tourism, most commercial fishers remain among the poorest in the Okavango and, to a large extent, the commercial sub-sector itself is largely artisanal, and remains small-scale. Thus, in my view, to label gill-net fishing 'commercial', in the case of the Okavango Delta is to some extent an exaggeration, and is generally misleading. The activity of fishing is highly affected by variability, and the lack of markets increases the high-risk aspects of the activity, particularly for those on the eastern side of the Panhandle. In fact, not all commercial fishers own gill-nets, and instead use hooks and lines as their main fishing equipment; the majority do not own engine-powered boats but use canoes, which are cheaper, and which they can construct themselves (Mosepele and Ngwenya 2010: 9). This also means that they generally catch less fish than the more affluent commercial fishers who own engine-powered boats and gill-nets, and who can therefore transport heavier loads compared to those who use wooden canoes.

Although commercial fishermen derive most of their income from fishing and are generally more affluent than subsistence fishers, they cannot be compared to medium- or large-scale farmers, and the majority of them complement their income through other activities. The new regulations may, therefore, suggest that most fishing enterprises can operate as viable businesses, when in most respects these individuals fish for subsistence and their economic status is low compared to other commercial enterprises such as tourism, angling and cattle ranching, which tend to receive significant support through government policies and subsidies.

The next section discusses interventions in the Okavango Delta fishery by different actors.

6.4 Conservation of Okavango fish: global concerns and local responses

This section discusses the most significant interventions made in the fishing sector as a response to the perceived problems arising out of the use of fish. These not only came from national policy, but also through international projects tied to the Ramsar Convention and the Convention on Biological Diversity (UNCDB), and they have both informed and shaped each other, as well as the processes and outcomes. Global and local science and knowledge have both combined to inform national policy and practice at the resource level.

6.4.1 Identifying the problem: scientific assessments by Conservation International (CI)

Prior to the launching of the ODMP in 2003, a large study was conducted by Conservation International (initiated by Conservation International Botswana) between 2000 and 2002 on the Okavango Delta's aquatic organisms. The aim of the study was, among other things, 'to produce scientific data on aquatic organisms and systems needed to make informed management plans for the Delta and also to provide recommendations to guide local, national and international conservation policies relating to the Okavango Delta' (Alonso and Nordin 2003: 13). The results of this study, entitled 'A Rapid Biological Assessment of the Aquatic Ecosystems of the Okavango Delta, Botswana: High Water Survey', edited by the lead scientists from CI, Alonso and Nordin (2003), were published in CI's Rapid Assessment Programme's *Bulletin of Biological Assessment.* Hereafter referred to as the AquaRap, the study would later form the basis of subsequent research on aquatic organisms in the Okavango Delta, especially fish, which, according to the report, had been hitherto little studied. This study would also inform the activities of the GEF/UNDP Biokavango Project, which began at the end of the study. It highlighted the Okavango Delta

fisheries' issues of concern, and made recommendations for how they could be solved. The study concluded:

> There are conflicts of interest between commercial fishermen and the recreational/tourist fishery. Tourist lodges and commercial fishing sites are adjacent to one another and the two groups share the same fishing grounds and compete for the same fish resource, particularly the large cichlid species. Options for management include setting and enforcement of regulations to protect stocks and/or segregation of fishing areas to separate commercial fishing and angling tourism (Tweddle et al. 2003: 97).

The specific recommendations made by the study are outlined in Box 1.

Box1: Issues affecting fish and fisheries, as identified by CI's AquaRap study

1. Conflicts of interest between commercial fishermen and the recreational/tourist fishery. Before management decisions can be taken, a thorough review of all issues is needed, including not just fisheries aspects, but other users of the Panhandle resources. Management options to address the conflict between tourist lodges and commercial fishermen because they share the same fishing grounds and compete for the same fish resource include:

A. Develop and enforce regulations for the commercial fisheries, including:
- Licensing with strict sets of conditions,
- Prohibition of use of nets blocking lagoon entrances,
- Limitation of effort,
- Closed seasons,
- Limitations on mesh sizes,
- Limitations on night-time fishing activities.

B. Divide fishing areas between commercial and tourist operations either locally or regionally.

2. Fish farming. If there are serious attempts to introduce fish farming into the region, the species used should be native to the Okavango Delta. Exotic species such as *Oreochromis niloticus* should NOT be permitted under any circumstances.

3. Unrestricted use of motorboats. The Botswana Government should set in place a series of principles and policies to control the number and types of motorboats used on the Okavango Delta. Motorboat traffic along the main river channel in the Upper Panhandle zone should be carefully controlled, and nocturnal boat traffic should be completely prohibited. Motorboat use in narrow and shallow channels should be restricted completely.

Excerpted from: Alonso, L.E. and Nordin, L. 2003 (Eds) 'A Rapid Biological Assessment of the Aquatic Ecosystems of the Okavango Delta, Botswana: High Water Survey', RAP *Bulletin of Biological Assessment*, 27, Conservation International, Washington, D.C. pp1-28.

As recommended by the study, the new 2008 regulations have licensed fishing and introduced strict sets of conditions, such as banning fishing at night and setting nets across lagoons, along with many other traditional fishing practices; introduced a closed season; introduced limitations on mesh sizes; and limited the effort of fishing through introducing all the above-mentioned conditions. The regulations, however, fell short of addressing the real causes of the conflicts, as will be shown later.

6.4.2 Interventions: the ODMP recommendations for sustainable fisheries management

The ODMP began in 2003, around the conclusion of the AquaRap study, and highlighted the conflicts between the different fishing groups as needing attention in order to promote sustainable fisheries management and use. It also raised concerns about the changing hydrology of the Delta as having an impact on fish stocks, leading to perceptions that fish is being over-exploited. The report noted the role of flood dynamics in determining fish stocks, and linked the reductions in the stocks to low floods (Government of Botswana 2008a). Weak resource management authority was also highlighted by the ODMP and a report by the Government of Botswana's Auditor General (Government of Botswana 2005) as one of the concerns for sustainable management of fisheries resources. The lack of regulations prior to 2008 was seen as particularly worrying 'as controls could not be set for off-takes and methods to be used, and the different fishing activities could not be effectively controlled' (Government of Botswana 2005: 30). The AquaRap study also concluded that 'the Fisheries Unit is small and would require strengthening if regulations were to be enforced' (Tweddle et al. 2003: 104). The Okavango Research Institute has, however, recognised the 'deep knowledge of the fish resource' that the local fishers have, and therefore the need for 'co-management' of these resources with them (Mosepele 2007: 02). Observations and discussions about the work of the Fisheries Division with the local fishers (especially commercial fishers) also indicate that there are positive working relations between the two, and that much of the new knowledge and practice is a result of these interactions.

Based on these findings, the ODMP final plan made recommendations for the Fisheries Division:

> To revise and implement the draft Fisheries Act and fisheries regulations;[174] improve understanding of fish resource dynamics via rigorous scientific monitoring, better planning, practical field interventions; and greater stakeholder participation and appropriate conflict resolution mechanisms to ensure sustainable use and management of the Okavango Delta's fish resource (Government of Botswana 2008a: 91).

According to the ODMP report (Government of Botswana 2008a), the regulations would aim to: discourage unacceptable fishing practices and recommend the issuance of fishing licenses at a fee for gill-net fishers, with no fee for subsistence fishers; enforce the use of proper fishing net sizes; and introduce a closed fishing season. A pilot project was initiated to address some of the issues identified, in particular 'an improved fisheries management system will be developed and tested which will include conflict resolution and monitoring of fish stocks' (Government of Botswana

[174] The current regulations were drafted in 1997 and took about ten years to finalise.

2008a: 98). The implementation of the pilot project would be taken up by the GEF/UNDP Biokavango Project.

6.4.3 Solutions: the GEF's 'mainstreaming biodiversity conservation' project

The GEF/UNDP Biokavango Project (UNDP 2004) built on the recommendations made by the final ODMP report (Government of Botswana 2008a). It was a five-year project designed to mainstream biodiversity conservation objectives into production landscapes, in particular the tourism, water and fisheries sectors in the Okavango Delta. The Biokavango project proposal was developed as a collaborative effort between the UNDP as a GEF agency, the IUCN and the Department of Environmental Affairs, and implementation was carried out by the Okavango Research Institute. Other than GEF funding, additional funds came from the Government of Botswana as per the requirements of the GEF,[175] the Kalahari Conservation Society, and the five largest private tourism companies in the Okavango Delta, including Okavango Wilderness Safaris, Orient Express, Desert and Delta, Ken and Downey and CC Africa and Beyond. The project proposal argued: 'As a storehouse of globally significant biodiversity', the Okavango Delta is perceived to be 'at a risk that it will be eroded in the face of rising anthropogenic pressures' (UNDP 2004: 1). With regard to fisheries, the point of departure for the Biokavango Project was that:

> Botswana law allows open access to natural resources on tribal land. While sustainable in the past, this system is gradually leading to a *tragedy of the commons,* which when combined with weak resource management authority, causes users to maximise resource extraction for short-term gain. It also frequently gives rise to conflicts over natural resources. Disputes commonly occur among permutations of the following groups: subsistence fishers, harvesters of reeds and other veldt resources, and commercial tourism operators. This discord results in animosity between resource-users, and prejudices local attitudes against conservation – a problem now evident in tourism concessions (Biokavango 2004: 03) (emphasis added).

In consideration of these points, the overall objective of the project was specified as ensuring: 'biodiversity management objectives are mainstreamed into the main production sectors of the Okavango Delta' (UNDP 2004: 4). Through this project, 'The Delta would serve as a demonstration site for piloting and adapting novel approaches to protecting biodiversity in production landscapes which can be replicated in other wetlands' (Ibid). The target sectors were tourism, water resources and fisheries.

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[175] As discussed in Chapter 4, the GEF provides 'new and additional grants and concessional funding to cover the "incremental" or additional costs associated with transforming a project with national benefits into one with global environmental benefits'. http://www.thegef.org/gef/whatisgef, last accessed on 5 March 2011.

Due to the Ramsar status of the Okavango Delta as a 'globally important wetland', a significant criterion for the GEF's biodiversity work, whose objective is to 'generate global benefits and services', the project was able to benefit from GEF funding and technical advice.[176] On consideration of the project proposal on behalf of the GEF Scientific and Technical Advisory Panel (STAP), the reviewer noted:

> Conservation of the Okavango and its biodiversity has substantial global benefits. It is a unique habitat for a large number of species, some of which are globally threatened. Although not stated in the proposal, the fact that the area has a number of globally-threatened species as well as large congregations of birds qualifies it as an Important Bird Area. Existing national and district programmes, although substantial, *will not ensure conservation of these species without the incremental costs being met by GEF*. Such GEF support will not only ensure global biodiversity benefits but will enhance local livelihood benefits[177] (emphasis added).

The IUCN's involvement in the project was to promote ecosystem and participatory planning approaches to facilitate learning between the different stakeholders.[178] Even though off-take in the Okavango Delta fishery is considered very low compared to other African wetlands (6-10%) (Mosepele 2007: 1), the Biokavango Project's premise is that the highly localised fishing activity is a risk to the stock, and is leading to local pressures. The project argues, therefore, that precautionary measures such as the establishment of set-asides (zoning), are needed to ensure the compatibility of fishery management with conservation aims. Biodiversity mainstreaming is the ultimate goal of the Biokavango Project, and the main interventions would be in the areas of institutional capacity, property rights and technical know-how of resource-users.

Through the application of the 'precautionary principle', the project's strategy was to 'address future threats to biodiversity emanating from these production activities' by 'instituting management measures before threats become severe' (UNDP 2004: 4). With regard to fisheries management, the project had two main outcomes, as noted in the project document (UNDP 2004: 6):

i. *Demonstration of biodiversity-friendly management practices for the fishery sector*: this would entail working in conjunction with the Okavango Fishermen Association (OFA) to improve fishing practices at two demonstration sites by creating spatial set-asides, vesting resource-user rights in managers through the creation or catalysis of appropriate community institutions, and strengthening local capacity to plan, enforce and monitor management.

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[176] Dr. Akiko Yamamoto, Portfolio Manager, International Waters, GEF/UNDP, Pretoria, interview, 24 April 2009.
[177] GEF STAP Review of the Project Proposal, annexed to the Biokavango Project proposal. Last accessed at http://gefonline.org/projectDetailsSQL.cfm?projID=2491 on 10 November 2010
[178] Ms. Masego Madzwamuse, former IUCN Botswana Country Office Coordinator, interview, 24 April 2009, UNDP Pretoria.

ii. *Incorporation of biodiversity safeguards into national aquaculture programs* The project would make recommendations for changes in addition to national regulations to ensure that regulatory instruments are put in place to guide aquaculture developments e.g. fish species permitted for farming, aquatic plants, fish food and disease control.

A new advisory committee was set up between the Biokavango Project and the Fisheries Division (Okavango Fisheries Management Committee/OFMC), through which local fisher groups were encouraged to produce management plans for zoning and managing fishing areas for different uses.[179] In April 2010, the OFMC launched a *Code of Conduct for Responsible Fishing* in the Panhandle area of the Delta to 'improve fisheries management in the area through the development of local participatory governance structures that guide the use, access to fish resources and conflict resolution by different user groups' (Gabathuse 2010).[180] On close inspection, the wording of the 'Code of Conduct'[181] appears to be a list of 'don'ts', specifically addressed to the commercial fishers. It reflects the issues raised against the commercial fishers by lodge owners, as documented in Tweddle et al. (2003) and during focus groups discussions with commercial fishers for this study (8 and 20 September 2008). The OFMC also set aside a 'free fishing zone in the Panhandle to be used for fish regeneration and research purposes covering aspects of fish ecology and population dynamics in relation to seasonal flooding' (http://www.orc.ub.bw/biokavango).[182] The free fishing zone has been implemented against the wishes of the commercial fishers, and although they participated in the process as part of the OFMC, they see this as restricting their fishing operations and ultimately affecting their businesses (Mosepele and Ngwenya 2010).

The Biokavango Project worked directly with the Fisheries Division to finalise the drafting of the fisheries regulations. As the project draws to a close, a lot of project activities have been completed, but despite this, the commercial fishing sector is largely unhappy about the recent developments, as they feel disadvantaged and targeted as a user-group:

> *The government realised that we are benefiting from the use of resources and decided to stop us* (Commercial fisherman, interview, Seronga, 13 September 2008).

Others think the regulations have failed to address their concerns:

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[179] Interview with the Biokavango Project Coordinator, 8 January 2010.
[180] Ryder Gabathuse, 'Okavango Delta gets code of conduct for responsible fishing' *Mmegi* newspaper, 23 April 2010, Issue: Vol. 27, No. 62. Available at http://www.mmegi.bw/index.php?sid=1&aid=1897&dir=2010/April/Friday23, last accessed on 5 March 2011.
[181] See Appendix 4 for the Code of Conduct
[182] Last accessed on 5 March 2011.

> *We asked for regulations because we need interventions in the fishing sector, but we did not ask for fees and closed seasons* (Chairperson of Seronga Fishermen Association, interview, 13 September 2008).

Some in the recreational fishing sector do not fully welcome some of the regulations either:

> *The closed season is not necessary because our activities are not abstractive as we practice the catch and release method 99% of the time, so we should be able to fish all year round* (Fishing lodge owner, interview, Samochima, 16 January 2010).

The process and outcomes of the 2008 Fish Protection Regulations are discussed in the next section.

6.4.4 Outcomes: strict regulation, management and control

The introduction of the Fish Protection Regulations in May 2008 was a result of a long process of drafting and consultation exercises that started over a decade before they were introduced.[183] With assistance from the Biokavango Project, the draft regulations were taken back to the stakeholders in 2007 for review in order 'to capture new perspectives before being finalised and approved by Parliament'.[184] With the escalation of conflicts between the recreational and commercial fishing sub-sectors, the stakeholders sought intervention and assistance from the Fisheries Division. This was done for different reasons by each group; the commercial fishers wanted a mediator between them and the angling community as they felt they did not have a platform:

> *We asked for the regulations because we need interventions in the fishing sector. Tour operators and recreational fishers are being listened to because they have a voice and lawyers* (Focus group discussion with commercial fishers, Seronga, 20 September 2008).

> *The recent regulations are welcome because some users, especially tourists and tour operators, use unsustainable methods, their activities are outside the law, they should fish inside their lodges* (Chairperson of the Okavango Fishermen Association, interview, Samochima, 08 September 2008).

The recreational fishing sector argued that the commercial fishing sector was depleting the resource and therefore their activities needed to be regulated:

> …the biggest single factor is over-fishing, using methods that no resource can withstand. Just as our wildlife laws protect game with sound policies e.g. game reserves, reduced quotas, no hunting by night, no chasing of game by vehicle, etc., so our fish resources require similar protection (Tour operator and lodge owner, February 27, 2007, cited in Biokavango (2007: 24)).

> *Netting (fishing with a gill-net) itself needs to be controlled and quotas need to be set per fishing depot because this is a disaster, commercial fishermen are overfishing the Panhandle* (Fishing lodge owner, Samochima, interview, 16 January 2010).

[183] Senior Fisheries Officer, Shakawe, interview, 10 September 2008.
[184] Senior Fisheries Officer, Maun, interview, 2 April 2009.

Coming to the conclusion that the conflicts in the fishing sector were potentially detrimental to the stock,[185] coupled with prodding from the ODMP project from 2003, a 2005 government audit of the Fisheries Unit that criticised the non-existence of a regulatory framework, and the activities of the GEF/UNDP Biokavango Project in 2006, the Fisheries Division hastened the process of putting these regulations into place. The same views held by the CI AquaRap study, the ODMP and the Biokavango Project were echoed by senior government officials within the Fisheries Division in a narrative cause-and-effect manner:

> *The shrinkage of fishing grounds due to droughts and poor floods in the Panhandle resulted in concentration of fishing effort in one area and therefore conflicts arose. This called for regulations because these kinds of problems could hurt the stock. The policy is meant to be pre-emptive in order to address current problems and prevent new ones if they arose* (Senior Fisheries Officer, interview, Maun, 2 April 2009).

Aside from redefining the structure of the fishery and introducing fishing seasons, as discussed above, the main changes that the regulations have brought about are to disallow many of the methods hitherto employed by local fishers, and to introduce licensing, permits and fees. They prohibit the following fishing practices, which were mostly employed by commercial fishers: setting nets across a lagoon entrance or river channel; drive fishing; seining; active fishing at night; and using a mosquito net. The latter method was used by a few subsistence fishers, mostly women. Seining is only allowed for moving live fish for scientific and educational purposes or for aquaculture. The prohibited methods are replaced by a single method (gill-net fishing) for commercial fishers. Nets are allowed to be set and left stationary at night (from 8pm until 4am the next day). Subsistence fishers usually use traditional hooks and lines (made out of a wooden stick and a thin line), mostly used by men and boys, while women and girls usually use cloths, traditional fishing baskets and barrage traps (a method of trapping fish by building small walls around pools in floodplains). The feasibility and relevance of classical management controls are questioned by some, including researchers working in the Okavango Delta, such as Mosepele (2008) and Mmopelwa et al. (2009), as well as others working on other similar ecosystems (e.g. Jul-Larsen et al. 2003). These scientists question the suitability of these management approaches for complex inland fisheries and their implications for traditional subsistence fisheries. Mosepele (2008) argues that classical management approaches such as mesh size regulations could cause selective fishing, which may result in exploited fish stocks failing to regain their productive capacity. As he notes:

> In essence, selective fishing through mesh regulations affects fish populations at both the ecosystem level and the individual species level. At the ecosystem level, selective fishing removes apex

[185] Ibid, also the Chief Wildlife Officer, Fisheries Division, Gaborone, 15 April 2009.

> predators where the bottom-up processes might begin to predominate in a system that evolved initially as top-down controlled (Mosepele 2008: 59).

Research has also shown that the multi-gear approach, as well as the different fishing methods that locals employ, facilitates the targeting of different species by different fishing groups at different times in the flood season, thereby maintaining the diversity of species in the Delta and increasing the efficiency of fishing efforts (Mosepele et al. 2007; Mmopelwa et al. 2009). A fisheries ecologist based at the Okavango Research Institute (ORI) notes: *'the catch composition has now changed due to single method fishing'*.[186] Certain species of fish can only be caught at certain times using a specific method. For instance, drive fishing (now banned) was used by gill-net fishers between August and November in lagoons to target *Telapia rendalli*, which is otherwise extremely difficult to catch, but priced higher in the market (Mosepele et al. 2007: 297). Drive fishing was usually practised at night (which is also banned), and is more effective than leaving nets stationary through the night. As this method is practised in lagoons, which are some of the most contentious fishing sites for commercial and recreational fishers, the angling community and tourism sector are highly opposed to it, arguing that night fishing is a notorious practice as it disturbs their clients in safari lodges. The tourism industry therefore called for this fishing method to be banned. The Fisheries Division agreed that active fishing at night also disturbs fish, as they are a nocturnal species.[187] The new code of conduct also prohibits fishing within a 100 metre radius of any lodge. Code No. 1 of a list of ten notes: 'Fishing of any form in front of lodges is restricted. A buffer zone along the main channels shall be 100m on either side of the lodge along the channel, and 200m in front of the lodge'. *Tilapia rendalli* remains elusive for the gill-net fisher, and the local technical skill and knowledge of drive fishing is now fading. The Fisheries Division welcomes regulations and interventions that will help reduce the number of commercial fishers (Mosepele and Ngwenya 2010), as this is seen as the main threat to the sustainability of fisheries.

The short- and long-term fluctuations in the flood regime of the Delta also result in spatio-temporal variations in species composition and availability, therefore calling for a more integrated approach to exploiting and managing fisheries. The subsistence fishing sector has been allowed to retain its traditional methods, save for the use of mosquito nets. Traditional subsistence fishing methods are seen as 'crude and inefficient', however, making subsistence fishing itself of secondary importance (Mosepele 2007: 297).

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[186] Mr. Keta Mosepele, interview, 8 January 2010.
[187] Chief fisheries officer, interview, 15 April 2010.

The only changes that the regulations bring to the recreational fishing sector are the introduction of fees, permits and the seasonal bans (closed season), as also apply to the commercial sector. In addition, through the new code of conduct, the recreational fishers are expected to participate in the monitoring of fish stocks through recording all catches.

As mentioned above, the process of drafting the regulations was based on consultations with all the fishing stakeholders: commercial, subsistence and recreational. To an extent, individual clauses in the draft document were agreed between all stakeholders.[188] '*Prior to adopting these new regulations, we over-consulted with the stakeholders through meetings and workshops',* noted the head of the Fisheries Division at the headquarters in Gaborone.[189] Despite this 'over-consultation', the final document contained some clauses that were either not agreed to or had been altered to read differently following agreement, and some were simply overturned.[190] These allegations were confirmed by some officers, who revealed that some of the clauses, in particular the clause outlawing the use of engine-powered boats exceeding a capacity of 60cc horsepower (as had been previously been agreed with all stakeholders at the February 2007 meeting), had been removed from the final document. As noted above, the removal of this clause had been facilitated by some individuals in the tourism industry, who felt that prohibiting the use of large boats would negatively affect the use of 'houseboats' and large-capacity boats employed by the tourism industry, particularly for fishing competitions. Controlling the use of these large boats is left to the discretion of the extension officers, who often have no decision-making authority and power. The extension officers took a lot of the blame for the perceived under-representation of local communities in the regulations, although the final decisions were made at ministerial level in the capital city. Commercial fishers noted:

> *Consultations are useless nowadays because we agree on things but when the policies come they have been changed for the worst. Policy-makers need to learn about people's livelihoods, they need to conduct assessments before they make policies* (focus group discussion with commercial fishers, Seronga, 20 September 2008).

Some local fishers concluded that the government was intentionally targeting their activities:

> *Why are tour operators allowed to continue using their large boats but we are penalised? The government favours operators because they make the government rich* (Commercial fisher, interview, 13 September 2008).

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[188] Senior Fisheries Officer, Shakawe Office, interview, 10 September 2008, and Research Officer, Fisheries Division, Maun, interview, 2 April 2009.
[189] Interview, 15 April 2009
[190] Focus Group Discussion with commercial fishers, Seronga, 20 September 2008.

Locals are against the use of large boats by the tourism industry, as most of them make large waves that flood ground-dwelling bird nests and fish eggs on the river banks. These boats reportedly also capsize small wooden and fibreglass canoes used by locals. The focus group discussions with both the Seronga Fishermen Association and the Boiteko Fishing Trust revealed that, even though some of the fisherfolk welcomed the regulations as a potential solution to the conflicts in the industry, the majority of them saw them as a punitive tool that sought to marginalise them even further from accessing the resource. The Fisheries Division acknowledges that the regulations are designed to control the way commercial fishers interact with fish:

> *The regulations affect the commercial fishers the most as they directly control the way they fish* (Chief Wildlife Officer, Fisheries Division, interview, 15 April 2009).

The continuing struggle over who accesses what fishing grounds and who controls fishing practices is a lot more complex, and goes beyond the simple dichotomy of recreational or commercial use of fish. It is embedded in racial, gendered and class-based struggles over a resource, the perception of which is shifting at all levels of use and management. While one group can make powerful, supposedly informed and logical claims about the state of the resource and receive an audience in the highest policy circles, and another has no such platform, it is inevitable that the outcomes of such a process and struggle will be skewed away from the less powerful group. As Jul-Larsen et al. (2003: 6) note: 'When interests of power become one of the basic principles for regulating resource access, it is not evident that these principles reflect either ecological or social equity concerns'. Conflicts in the fisheries sector, as is the case with many other land uses in the Okavango Delta, remain unsolved.

In this study, I do not claim that the practices of commercial fishers are all sustainable. As mentioned earlier, some fishers do indeed raise concerns about the fishing practices of others. For instance, members of the fishermen committees (e.g. the Okavango Fishermen Association) agreed among themselves to stop *active* fishing at night, and supported the Fisheries Division's decision to outlaw this practice, although some fishers continued to carry out active fishing at night until the regulations came into force.[191] The use of mosquito nets has also been prohibited. . Local fishers acknowledge that some of their 'traditional' practices, such as poisoning lagoons, were unsustainable and, as advised by the Fisheries Division, they have discontinued them.

6.5 Unresolved issues: the limitations of conventional management

[191] Chairperson of the Seronga Fishermen Association, interview, 13 September 2008.

As the main reason for introducing fishing regulations is ascribed to conflicts in the fishing sector, and the perceived real or imagined consequences of such conflicts, it is worth noting some of the issues that remain unresolved and unaddressed by the new regulations.

6.5.1 Unrecognised traditional user-rights and access

As the Okavango Delta inhabitants have historically fished the entire Delta (Tlou 1972, 1976), restricted access to some parts of it is an unwelcome development for them. The establishment of the Moremi Game Reserve in 1963 (Fauna Wildlife Act, 1961) and the two subsequent post-colonial extensions of the reserve (1976 and 1992) meant that the ancestral and traditional homelands of several communities became inaccessible for communal subsistence use (Mbaiwa et al. 2008). Fencing in natural resources and fencing out people, as is the case with tourism concessions, meant that access to and control over traditional sites for hunting, fishing, and collection of veldt products, on which the livelihoods of such communities depended, was lost. This, coupled with the private holdings of tourism enterprises on waterfront sites perceived as traditional fishing grounds by locals, has contributed to conflicts over the remaining fishing grounds outside protected areas. With the commercial exploitation of fish, and the resulting need to maximise economic returns from the activity, there has been an increasing need to utilise more land for fishing. It is the need to access these traditional fishing grounds that commercial fishers most strongly contest in the Okavango Delta. The new fish regulations do not, however, address this issue, and instead, the new code of conduct launched through the GEF/UNDP Biokavango Project puts another 100 square metre 'buffer zone' next to all lodges in the Delta. Through this project, the Fisheries Division has put in place approaches similar to those used for wildlife management, which currently sees very few benefits going to the wider Okavango communities. It remains to be seen how the issue of access to traditional fishing grounds for local communities will develop, but with the current policy trend of promotion of tourism as the primary land-use activity in the Okavango Delta (Magole and Magole 2009), it is highly unlikely that access rights that have been discontinued will be restored.

6.5.2 Some unregulated recreational fishing activities

The activities of the recreational sector remain little regulated to date, save for the introduction of the seasonal ban and fees. Angling is actively promoted in the Delta. As noted by the ODMP report (Government of Botswana 2008a: 55): 'Sport fishing has a great potential in bringing considerable income into the country and also in providing employment to communities in the vicinity of the fishing camps'. However, fishermen in and around the western side of the Panhandle, where most

fishing lodges and camps are located, complain about the lack of jobs in the angling sector.[192] Furthermore, the sector and the impact of its activities on the environment are not fully understood by scientists and the Fisheries Division, as the sector remains relatively closed to outsiders.[193] Scientific assessments have, however, not been conducted in order to understand the impacts that this activity may have on the stock, or on the specific species targeted by recreational fishing.[194] The only requirement made by the voluntary code of conduct is for the recreation sector to record their catches, as has been standard practice for many years within the commercial fishery sub-sector.

Despite the regulations, the conflicts between recreational fishery and commercial fishery still exist, and in fact most of what the regulations do is criminalise most, if not all, of the traditional local methods of accessing fish. This, in effect, upholds one form of use over others. This is not to argue that all the traditional fishing methods employed by locals were sustainable or good, but merely to demonstrate the outcomes of a process of struggle ongoing in the Okavango fishing sector. Most of the complaints raised by the tourism sector against the commercial fishers have been addressed through the regulations and the new code of conduct. As Mosepele and Ngwenya (2010: 12) point out, the Fisheries Division is in favour of management approaches (e.g. zoning) that will regulate the activities of commercial fishers, or reduce their number, as their practices are regarded as potentially unsustainable to the fish stock.

6.6 Local consequences: shifting access to and control over fish

The policy-driven changes described above have contributed to reduced access to and control over fish, not only for the so-called commercial fishers but also for fishing communities in general. For the commercial gill-net fishers, access to traditional fishing grounds has not been restored; instead, it has been reduced through the imposition of an additional 100 square metres 'free fishing zone' around tourism facilities in the name of name of scientific research and conservation. For the recreational fishing sector, or the tourism sector, exclusive access to the resource has been guaranteed due to the prohibition of local fishing practices through regulations and a code of conduct. The code of conduct is not only a list of 'don'ts', but also a tool for self-discipline, through which fishers can govern their own behaviour and each other's. Though voluntary, the code of conduct has received a stamp of approval from the director of the Department of Environmental Affairs, who officially launched the code of conduct in a widely publicised 'ribbon-cutting'

[192] Focus Group Discussion with members of Boiteko Trust, Samochima, 8 September 2008.
[193] Mr. Keta Mosepele, Research Fellow, ORI, interview, 10 January 2010, and Senior Fisheries Officer, interview, 12 September 2008.
[194] Mr. Keta Mosepele, Research Fellow, ORI, interview, 10 January 2010.

ceremony on 22 April 2010. The code of conduct has been seen by some as a mere public relations stunt that does not in fact resolve the conflicts between the commercial and recreational fishers, but instead penalises one group's activities and condones the other's.[195]

The introduction of regulations in May 2008 has been viewed locally as a move to reduce access to the fish resource for commercial fishers whose practices are seen as a potential tragedy to the fishing commons. This move has reinforced already-existing perceptions that the Okavango Delta and its resources do not belong to locals, and that restrictions over its use will increase in the future. An elderly man commented during a focus group discussion: '*the government must tell us that these resources do not belong to us anymore'*.[196] As the restricted use of other resources such as wildlife, and the regulations over harvesting some veldt products have increased over time, the inclusion of fish on this list of 'untouchables' is seen by the locals as the final straw. Despite the fact that fish is not as restricted as other resources, such as elephants, which are on the CITES list of globally endangered species, the management of fisheries resources by the same government institution is perceived as a move in this direction. As an elderly woman in Seronga noted: *'fish is now like elephant* [i.e. has the same status], *they have transferred its management to the Wildlife Department and they don't want us to touch it'*.[197] Others note: *'The Fisheries Division has been transferred to the Department of Wildlife and National Parks, all they do there is police us'*.[198]

Neo-Malthusian explanations of human-environment relations have significantly informed and been used to justify the interventions in the Okavango Delta fisheries. Garrett Hardin's (1968) 'tragedy of the commons' thesis directly informed the GEF project proposals. The role of local knowledge, unwritten rules and customs in the utilisation and governance of natural resources has been excluded in favour of the modern scientific knowledge of conservation biologists and ecologists from Conservation International and other international scientific institutions. Results of scientific assessments have been presented in neutral language, and the power relations behind them ignored. Local institutions and technical knowledge have been assumed to be either non-existent or ineffective. Policies therefore remain externally-driven and highly informed by Western notions of science and knowledge. However, communally-held resources tend to be generally perceived as purely open-access resources or 'free' and therefore potentially 'threatened'. Many studies (Berkes

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[195] See the article by Nomsa Ndlovu, *'Fishing code of conduct for Okavango panhandle launched'* in *Sunday Standard* newspaper dated 9 May 2010, http://www.sundaystandard.info/article.php?NewsID=7559&GroupID=3, last accessed on 29 June 2011.
[196] Seronga, 22 September 2008.
[197] Interview, 24 September 2008.
[198] Interview with commercial fishers, Seronga, 13 September 2008.

et al. 1989; Leach et al. 1999; Jul-Larsen et al. 2003; Bené et al. 2010) have shown that this is not always the case; that there are in fact complex conditions that often exist to regulate access to such common resources. Jul-Larsen et al. (2003: 43) refer to these as 'local access-regulating mechanisms', which, rather than being a management means as such, are more often than not simply expressions of people's struggle to control access to resources.

Through their close longitudinal studies of southern African freshwater fisheries, Jul-Larsen et al. (2003) have concluded that often management, and to some extent even co-management (where communities are encouraged to work closely with government authorities to manage resources) of freshwater fisheries is not necessary, as often these fisheries are characterised by high system-variability such that they become self-regulating. The same argument is made by some ecologists at the ORI, who argue that, due to the simple fact that the availability of fish and therefore the fishing effort is regulated by the seasonal flood regime, management through regulations and other such related mechanisms is not necessary. In fact, Jul-Larsen et al. (2003) argue that often management and co-management approaches are not about management of the resource *per se* (i.e. biological conservation), but rather about managing the people using the resource. This argument holds in the Okavango fishery, since, as noted earlier, the regulations themselves do not actually address any of the issues that they were supposedly put in place to address (i.e. conflicts within the fishing sector). Instead, they are focused on regulating the efforts of commercial fishers, in effect limiting their catch, which suggests that commercial fishers are overfishing, an allegation found not to be true. One can conclude, therefore, that the reason for introducing the regulations in the Okavango had little to do with addressing the problems (i.e. conflicts), but were rather to control the commercial gill-net fishers' access to and control over this resource.

Evidence also shows that fisheries in the Okavango Delta Panhandle are not a pure open-access resource where newcomers are not restricted. Firstly, very few fishers concentrate only on fishing as a livelihood activity, and the majority of the fishers only fish seasonally and occasionally, mostly during lean times, as a social safety net, and sometimes a temporary livelihood option. This explains why the Okavango Delta fishery is so little exploited. Small-scale fisheries have also been shown to be cost-prohibitive and characterised by high mobility, meaning that it is difficult to have a clear, permanent fishing group (Béné et al. 2010). Furthermore, for those who are already engaged in the activity, there is no obvious attempt to increase their fishing efforts through increases in investment (Jul-Larsen et al. 2003). This is found to be the case in many southern African freshwater systems, and the reasons for this are a combination of factors ranging from the natural productivity of

ecosystems and the existence of alternative livelihood options, to local access-regulating mechanisms (Ibid).

The introduction of regulations that particularly outlaw, and even criminalise, certain local fishing practices not only directly affects the local gill-net fishers' access to the resource, but also invalidates the knowledge that has been accumulated throughout history. Some of these practices have helped locals adapt to changing environmental conditions and maintain their access to fish during crucial times, as Mmopelwa et al. (2009) show. A single fishing method significantly reduces fishers' ability to deal with the variability inherent in most freshwater fisheries. This presents a threat to the resilience of livelihoods of many people with limited possibilities in periods of stress, and could also pose a problem to the fish ecology itself.

These arguments present a direct challenge to common property theories that tend to promote 'co-management' or 'community-based' approaches to natural resource management. While these approaches may work for other resources elsewhere, they tend to fail in freshwater fisheries in which it is sometimes impossible to define a 'community' where everybody is a fisher, or a potential fisher, as is the case in the Okavango Delta and other similar systems, as the work of Jul-Larsen et al. (2003) shows. It is, therefore, hard to create boundaries between fishers and non-fishers with regard to the representation of the community in co-management arrangements (Jul-Larsen 2003: 92). Béné et al. (2010: 347) also highlight the actual capacities of small-scale fisheries to absorb unskilled surplus labour and to provide a safety net and risk mitigation mechanisms for millions of resource-poor households during vulnerable periods. Marginalising small-scale fishers therefore not only erodes their ability to cope with risk, but also significantly exposes them to environmental and livelihood shocks and stresses.

6.7 Conclusions

This chapter has tracked the changes that have occurred in the Okavango Delta fisheries from the 1970s to the present, and the role of global biodiversity conservation discourses in these changes. It has shown how the listing of the Okavango Delta as a Ramsar Site and the signing of other global environmental conventions (e.g. the UNDCB) have significantly driven management interventions into the sector. The chapter has also shown how global neo-Malthusian narratives of 'extinction' and 'over-exploitation' of wetland resources have informed the thinking behind new strict policies and interventions. It has explored how these narratives and discourses have been appropriated by powerful groups at the local level, who have found audiences in equally powerful circles such as the

GEF, the UNDP and Botswana's central government agencies. Through aligning their interests with those of powerful international and national actors, these local actors have enhanced their claims and control over the resource, to the exclusion and marginalisation of weaker, poorer groups.

The policy changes resulting from such globally-constructed processes have often ignored local ecological knowledge and the socio-political, historical and cultural settings where they are applied. Interventions based on assumptions that resources are 'openly accessed' ignore the historical and culturally embedded value of traditional local institutions in regulating access to and use of local resources. As Chapter 5 has shown, local practices around fishing historically had rules, taboos, fines and sanctions, including the confiscation of fishing gear for unacceptable practices such as poaching (fishing in undesignated areas). Even today, fishers still have some locally-negotiated rules through which to interact with fish. For instance, commercial fishers have agreed between themselves not to engage in certain practices such as fishing at night, and they agree on where, when and how to fish. Many of the old practices have not been recognised by government agencies and institutions, and have therefore fallen out of practice, often being replaced with modern, science-driven management approaches that tend to be inflexible, have no legitimacy at the resource-use level and likely to marginalise people away from their own resources. The introduction of strict fishing regulations and 'co-management' plans (zoning, spatial set-asides, management plans and codes of conduct) through the work of the Ramsar Convention and the GEF/UNDP Biokavango Project represent such a move. As this chapter has shown, the Fisheries Department welcomes interventions that limit the catch by commercial fishers or reduce their numbers, because their practices are seen as unsustainable and incompatible with conservation goals.

These neo-Malthusian explanations of the relationship between fish and commercial fishers are held firmly by those in the tourism sector (those promoting angling safaris in particular) and by some in the Fisheries Division. Local subsistence and commercial fishers counter that only floods determine the productivity and availability of fish stocks, and argue that they should be allowed to fish anytime and anywhere because the resources belong to them. Modern management interventions favour non-abstractive uses of natural resources, however, as the policies of the Department of Wildlife and National Parks (DWNP) apply in other wildlife contexts. The abstractive fishing practices of commercial fishers are therefore seen as a threat to this conservation-oriented approach to managing and using wetland resources. Wetland degradation narratives combine with the overfishing narrative to enhance the need to conserve fish in wetland environments, and the power of the GEF biodiversity mainstreaming discourse further sanctions these 'tragedy of the commons'

visions. Global interventions are, therefore, often seen as the most effective solution to these potential local tragedies.

Although they are presented as neutral and technical, and sometimes cloaked in the language of 'livelihood improvement', these 'scientific' approaches often serve the interests of the powerful groups who already control resources. In the case of the Okavango, they actually have the potential to introduce more conflicts by increasing competition between the different user-groups, and favouring some over others. Moreover, as Mosepele (2008) and Jul-Larsen et al. (2003) have argued, some of the modern approaches imposed, such as mesh size restrictions, may also affect fish populations at both the levels of the ecosystem and the individual species.

Based on these findings and arguments by researchers such as Jul-Larsen et al. (2003), Mosepele (2007), Mmopelwa et al. (2009), Mosepele and Ngwenya (2010) and Béné et al. (2010) about the nature of southern Africa's freshwater fisheries, it can be concluded that the current changes (i.e. the introduction of strict controls) in the Okavango Delta's fisheries are misplaced and possibly unsuitable for an ecosystem like the Okavango Delta that is driven by complex, non-linear ecological processes. The system is also self-regulating, as floods come and go, making conventional management interventions redundant (Mosepele 2007). The introduction of strict controls is a clear indication that either policy has ignored important information about the state of the resource (i.e. that it is not under pressure, but rather underutilised), or that the regulations were actually introduced for completely different reasons than ecological ones (i.e. controlling the practices of some groups). Strict management of freshwater fisheries is not necessary, as it is difficult to enforce regulations where everybody is a fisher, and it may also come into direct conflict with local people's livelihoods and welfare, eroding their capacity to cope with poverty and the negative consequences of environmental change.

Chapter 7
Synthesis and Conclusions

7.1 Whose Resources? Whose Rules?

This thesis began by investigating how the framing of conservation problems at the international level and the solutions that result from this framing influence dynamic human-environment interactions in the Okavango Delta. I started by posing a broad question to guide the study: *What are the consequences of global environmental agreements on local people's livelihoods, and how do they shape access to and control over local environmental resources?* As noted in Chapter 1, the goal was to understand how the enhanced conservation status of the Okavango Delta shapes access to and control over the resource by different groups, and how these groups benefit or lose out. It was also to understand how these groups position themselves in relation to larger discourses of global environmental conservation, and how this shapes the overall landscape of human-environment relations in the area.

Analysis was conducted to show the role of global discourses and narratives about environmental change in legitimising the environmental interests of certain local actors over others, and how this has shaped the distribution of costs and benefits of environmental conservation and exploitation. Specifically, I undertook a detailed exploration of the role of global and national narratives about biodiversity loss in influencing change in the policies and practices of government agencies and other national and local institutions and organisations in Botswana. Overall, I have shown how the elite interests of key groups in policy-making, tourism, conservation, cattle ranching, mining and related businesses have been dominant in shaping the outcomes of natural resource management in Botswana, particularly environmental conservation and exploitation in the Okavango Delta, such that the interests of poorer resource-user groups have been marginalised.

I also posed a set of specific questions to guide different aspects of the study. The first of these sub-questions was: *How have global environmental agreements influenced changes in national policies relating to natural resources in Botswana?* This question sought to explore the specific role that global environmental agreements play in shaping the management of local resources in the specific Okavango Delta context. Chapter 4 discussed in detail how the Ramsar Convention and the UN Convention on Biological Diversity have been adopted in the context of Botswana and the Okavango Delta, and showed how their implementation has been characterised by the domination

of elite interests in shaping the outcomes. Furthermore, as shown in Chapter 3, the listing of the Okavango Delta as a Ramsar Site in 1997 was driven primarily by Botswana's conservation goals and its plans to safeguard its commercial tourism interests in the Okavango Delta swamps after failing to develop its water resources in the 1980s. Being in a disadvantaged position downstream of the river basin, the country's tourism and conservation interests benefited from international support from conservation organisations, which saw the move to list the Okavango Delta as a wetland of international importance a responsible one. Namibia's plans to abstract water from the Okavango River system and a peaceful Angola presented threats to Botswana's tourism interests in the Delta, an important economic diversification and growth strategy. Earlier interests in tapping the Okavango Delta waters for mining and cattle-ranching activities south of the Delta had not only ended in an international campaign against Botswana, but also posed a potential threat to its most important economic activity, diamond mining. Listing the Okavango Delta as a Ramsar Site, therefore, achieved the primary goal of securing the ecological integrity of the swamps for tourism by preventing water development activities on the system by upstream countries, and also restored Botswana's reputation as an environmentally-responsible nation. The signing of the UN Convention on Biological Diversity (UNCBD) in 1995 further acknowledged the sovereign rights of countries like Botswana in using their natural resources to promote economic growth; thus, the sustainable development discourse became another tool with which to further support the government's plans to develop tourism in the Okavango Delta. In this way, both the Ramsar Convention and the UNCBD served the end of achieving conservation while promoting economic development.

In Chapters 3, 4, 5 and 6, I showed how the power of discourses and crisis narratives can be significant in shaping resource-use in a particular locality. As sub-question 2 asked: *How are global and national narratives about biodiversity loss constructed, and how have they shaped regional, national and local discourses of natural resources management in the Okavango Delta?* An analysis of the events and processes that gradually led to a shift in human interactions with the Okavango Delta revealed a pattern of an imagining and re-imagining of the landscape by different actors over time, from the image of a savage backwater, to a valuable resource to be tapped for human development, to a unique wilderness landscape that requires strict protection. As international concerns about global environmental change and the loss of biodiversity have grown, so has the perception of environmental resources and landscapes such as the Okavango Delta as fragile and at risk. Narratives about a potential 'tragedy of the commons' that could result from human impacts played a significant role in shaping policy and practice towards management of

resources such as wetlands. Neo-Malthusian narratives have driven practices that fence resources away from people, privatise the use of communal resources and even encourage the commodification of these resources. In the Okavango Delta, these narratives and discourses have been significant in shaping outcomes as they also advance the interests of powerful groups, such as those in high-level policy-making, party politics, cattle ranching, tourism and related businesses. As I have shown in this thesis, the wilderness visions that justify strict control over natural resources have dominated management practice and influenced decision-making precisely because they advance the political-business interests of these powerful elite groups.

To understand how these changes shape human-environment relations and the outcomes for poorer resource-users in local contexts, I sought to explore the contestations and conflicts over Okavango Delta wetland resources between different local, national and international groups. Thus, I posed one final question: *How have the resulting contestations over wetland resources changed local actors' access to and control over wetland resources and their livelihoods in general?* My local-level studies highlighted how these global discourses and narratives play an important role in shaping frameworks of resource access and control by different groups with varying interests and claims on vital resources. Chapters 5 and 6, in particular, revealed how a few central government agencies such as the Department of Wildlife and National Parks, the Department of Tourism, the Department of Lands and the Agricultural Resources Board feature prominently in decision-making processes about the use of land in the Okavango Delta, and strictly control the use of wildlife, grazing land, fish and vegetation resources. Over time, policies and regulations have increasingly restricted some subsistence uses of land and other resources through a number of mechanisms such as the creation and expansion of buffer zones, the promulgation of strict regulations such as the Fish Protection Regulations of May 2008, the designation of certain parts of the Okavango Delta as 'fragile' and ecologically-sensitive (e.g. the floodplains and riverfront) and therefore not suitable for certain uses (e.g. farming) but acceptable for others (e.g. tourism), the erection of fences to restrict movements of people, wildlife and livestock and the adoption of codes of conduct to govern the behaviour of some user-groups and their relationship with the environment.

These changes, and many others, reflect not only pro-conservation interests, but also the interests of those in commercial tourism, large cattle-ranching and associated businesses, with mining interests always in the background. Elite groups have been shown to align themselves with global discourses such that they can use these to legitimise their interests in environmental management, and control

as much of the resource as possible. Corporate links between senior government officials and commercial tourism businesses are observable, even within the Office of the President. As a board member of Conservation International and a shareholder in one of the biggest tourism companies operating in the Okavango Delta, the President's position in influencing conservation and tourism in the area is highly significant. The suggestion by a senior government official for smallholder farmers to relocate their livestock away from the riverfront in the Okavango Delta (referred to in Chapter 1) exemplifies the role played by instruments such as the Ramsar Convention in strengthening the positions of some actors in the use and management of natural resources. As I documented in the case of the 200 metre buffer zone along the riverfront, created after the Ramsar listing, land authorities in the Okavango Delta have faced challenges in implementing these instruments within the tourism industry, while they have been applied to the use of the same land for floodplain farming. As a result, the outcomes of processes such as the ODMP and the GEF Biokavango Project have been partially applied, and are used to advance the interests of influential, politically-connected user-groups, while constraining those of local resource-users, and, in the case of fisheries, even criminalising the activities of the so-called commercial fishers.

Local communities and resource-users do, however, contest these practices and what they see as discriminatory and unfair management of environmental resources. For instance, the government's fencing policies are seen as a way of reserving prime grazing and water resources for conservation and tourism, while subsistence farmers are confined to more marginal areas. As I explained in Chapter 5, these fences also block communities from accessing sites that they historically relied on for fishing and harvesting wild fruits and grasses. Communities also contest the new arrangements for wildlife management, and some groups, such as the San, continue to call for a reinstatement of their indigenous hunting rights. The benefits of CBNRM are captured by elite groups, even at community levels, and continue to be strictly controlled by state agencies, often in favour of commercial enterprises that mostly benefit the more established tourism industry. The management of wildlife is a particular concern for communities, especially those in areas closest to protected areas, like the village of Seronga and others along the eastern part of the Panhandle. The issue of elephants is an especially contentious one. Communities along the official human-elephant conflict area question the government's elephant management policies and blame them for the high number of interactions between humans and elephants. The Okavango Delta area is inhabited by an estimated population of 150,000 elephants, and the costs of crop loss and property damage due to elephant raids are largely borne by farmers. They question why the government cannot effectively

control the populations through culling, or even the relocation of some elephants to other parts of the country to relieve pressure on Okavango Delta communities. Meanwhile, the government is also constrained by international expectations and obligations under CITES (Convention on International Trade of Endangered Species), which controls trading in elephant products.

The apparent contradictions and discriminatory practices that communities see in government management of the Okavango Delta are not unfounded. For instance, carrying capacity principles and tragedy of the commons explanations are used to restrict certain environmental uses, such as livestock rearing, but the same conceptualisations are not applied to wildlife management. How ecologically sustainable is a concentration of 150,000 elephants and over 200,000 buffaloes in northern Botswana alone, among other vast populations of wildlife? Communities ask what justifies the importance of wildlife over domestic stock, and whether the blame for degradation is not being hastily put on poor rural people who are only struggling to maintain their basic livelihoods. As this thesis has shown, these 'tragedy of the commons' and other neo-Malthusian framings of human-environment relations prejudice the role of humans in maintaining ecological diversity and often result in solutions that facilitate the loss of local people's access to and control over the use and management of vital environmental resources. The current practices of conservation, where the solutions are framed around the privatisation of communal grazing land, restrictions on the use of fish and wildlife by locals and the fencing in of resources – and the fencing out of people – can reasonably be perceived as socially-unjust and unsustainable in the long-term as they alienate the very people who should be at the centre of solutions to managing environmental change.

7.2. Political Economic Interests and Political Ecology

To aid analysis of the socio-political dynamics (narratives, discourses, interests and power relations) shaping resource access and control in the Okavango Delta, this study has employed a political ecology framework, complemented by other conceptual debates around power/knowledge, institutions and common property resource management. This study has shown how the politics of the Okavango Delta have been significantly produced by its ecology, and how the politics also creates a particular ecology. The visions of a savage landscape needing to be controlled drove colonial and post-colonial plans to exploit and tap the Delta, while recent narratives and visions of a fragile landscape requiring protection and rehabilitation dominate current approaches to management and use. These recent visions and narratives have been driven largely by neo-Malthusian explanations of environmental change and the role of human beings in this change. Landscapes like the Okavango Delta have, therefore, been represented as global public goods at risk

of ecological collapse, and requiring concerted international action to protect them for the good of all humanity. Managerial and technocentric solutions such as international conventions and agreements, as well as direct interventions by conservation institutions in these landscapes, have been proposed as the responsible step towards safeguarding them. The political economy of these processes is, however, rarely explored, and as this thesis has shown, the costs and benefits of conservation and tourism development in the Okavango Delta have been unequally distributed. While at the global and national levels conservation goals are being met, the economic benefits accruing from tourism have been skewed towards powerful private elite interests and the state. Policies that advance conservation and tourism have been particularly influential in the Okavango Delta, while those that could promote the socio-economic position of rural subsistence communities have received insufficient support from the government. CBNRM has received little political support, partly due to the fact that it challenges the conventional management of natural resources in Botswana, which is centralised and tightly controlled by state agencies and elite interests. A political ecology framework is useful in aiding analysis of how the management of landscapes like the Okavango swamps is significantly shaped by power/knowledge asymmetries and the political-business interests of those with the capacity to influence decision-making processes. In the context of Botswana, where democratic principles and human rights are generally respected, the country's economic performance is high and the quality of life is considered good, the political interests of certain elite groups and individuals in shaping frameworks of resource access and control have been shown to be particularly significant. This, to a great extent, requires more political-economic analysis of development discourse and practice. While this is central to the cross-disciplinary political ecology framework, it is perhaps not highlighted often enough, or is perhaps more useful in unusual contexts like Botswana. In this thesis, I have attempted to show that, while the ecology of the Okavango Delta produces a particular politics about its use and management, and vice versa, the political interests of elite groups are particularly significant in shaping the political ecology of the landscape.

At the international level, narratives about degradation and biodiversity loss, backed by scientific evidence produced by certain institutions such as Conservation International and the IUCN, have been shown to be significant in driving the interventions of international environmental actors such as the GEF and the Ramsar Convention in local landscapes. At the local level, these discourses are mediated by the interests of certain groups and individuals, who, in the context of the Okavango Delta, have been shown to (re)present their views and interests in a global language similar to those

of international actors. In this way, these views, interests and knowledge claims become institutionalised and codified through formal regulations, making them difficult to challenge, as they are often presented as scientific, and, therefore, as unquestionable truth. More often than not, these views and 'truths' reflect the interests of a few groups and individuals with the power to influence policy decisions and resource management frameworks, to their political and economic benefit.

However, as political ecology perspectives stress, the interests of powerful actors in environmental exploitation do not always go uncontested. Local actors can also exercise a degree of power in shaping environmental use and management. In Chapter 3, I analysed how the contestations over the use and management of the Okavango Delta have been contested at local, regional and international levels. Although the campaigns of Greenpeace and the scientific reviews of the Southern Okavango Integrated Water Development Project (SOIWDP) by the IUCN facilitated the decision by the Government of Botswana to terminate the project, local communities were also active in opposing these plans. By cooperating with the locally-based conservationists and tourism actors, subsistence resource-users were able to get their voices 'heard'. That said, commercial tourism interests have emerged as stronger and have used their influence to gain control over important resources in the Delta while restricting the access of local communities. Benefits have, however, also been realised by some members of the rural elite through control of local sources of economic wealth such as CBNRM activities.

Although political ecology analysis has its shortcomings, for instance that it is often more political than ecological, the framework is useful in assessing the socio-political and environmental dynamics in contexts like the Okavango Delta. While global narratives and discourses of the environment have been significant in shaping policy frameworks for the use and management of the Okavango Delta, these have been significantly mediated by the local political interests of elite groups in politics, policy-making, commercial tourism businesses and cattle ranching, among others. Looking at the political ecology of the Okavango Delta through the 'access and control' lens is, however, useful in understanding how the costs and benefits of environmental exploitation are distributed in society, and who gains and loses in the process.

7.3 Global Public Goods, Private Gains and Local Losses

In Chapter 4 I presented a critique of the global public goods (GPG) approach to biodiversity conservation, and showed how it has been employed along with crisis narratives to globalise control

over local environments and landscapes by institutions such as the GEF and UNDP. The framing of biodiversity and its conservation as a GPG, and the justification of the activities of conservation organisations as 'generating global environmental benefits' partly produce perverse local outcomes. Resource access and control are often removed from the communities closest to and most dependent on such resources, and vested in groups and institutions located far away, or in those with commercial potential. The chapter therefore examined whether the use of the 'global public goods' or 'global environmental benefits' discourses to justify these global interventions is in fact a global good itself, or only benefiting certain groups at the expense of others. These approaches and discourses frame resource management and the present solutions in terms of production and supply of goods. These new forms of regulation facilitate private interests and the expansion of market-based mechanisms to new natural resources (Duffy and Moore 2010: 744). The main tenets of the GPG approach become even more questionable when applied to biodiversity, as the concept itself is unclear. As I have argued, biodiversity has a multi-dimensional character, as reflected in the variety of its perceptions and uses by different groups of people. The concept is also bound up in theories and information about ecozones and habitat change, many of which are yet to be discovered (Brown 1998). Furthermore, these landscapes may themselves be 'misread', calling into question the science behind the definitions of change in such places (Fairhead and Leach 1996). Many of these approaches are informed by neo-Malthusian ideas that group landscapes into pristine and modified categories, resulting in the assumption that uncultivated landscapes contain greater biodiversity than cultivated ones. The Okavango Delta is one such landscape: it has been presented as one of the most pristine landscapes on the planet, owing largely to large populations of charismatic mega-fauna such as elephants, lions, buffaloes and rhinos. For this reason alone, many actors view the presence of humans as the primary driver behind biodiversity loss and ecological decline, and therefore advocate management approaches that protect these wild resources and landscapes from human encroachment. This kind of approach is itself presented as a GPG.

The GPG approach seeks to legitimate the actions and mandates of such institutions as government ministries, development agencies and international conservation organisations in imposing restrictions on resource access through the designation of these landscapes as unique, fragile and of global significance. However, as I have argued in this thesis, the non-rivalrous and non-excludability aspects of GPGs, their main tenets, do not apply to biodiversity. Its consumption, the distribution of benefits from its use, and decision-making about its use and management are all exclusive and rivalrous, and often serve the interests of certain actors to the exclusion of others. The benefits of biodiversity conservation, therefore, have a quasi-private nature, as some of these

benefits may be, and often are, captured privately. As the thesis has shown, the benefits from biodiversity conservation in the Okavango Delta are mostly captured by the tourism industry through particular alliances of state and private sector actions, whose interests are privileged over others through policy and practice. Even at the regional level, Botswana gains the most from this conservation agenda, as it increases its control over the entire Okavango River Basin. Therefore, whether it is applied at the local or regional level, the GPG approach should be seen as a largely rhetorical device of only limited scientific value. A more suitable approach would be a critical examination of the political economy of exclusion, rivalry and public provision as they pertain to international cooperation on conservation and resource management.

Recently, some scholars (e.g. Castree 2008a and 2008b; Brockington and Duffy 2010; Igoe et al. 2010; MacDonald, 2010; Brockington and Scholfield 2010; Corson 2010) have observed strong links between current conservation practices and capitalism, characterised by an aggressive faith in market solutions to environmental problems. Corson (2010) contends that collaboration between the private and non-profit sectors have both reflected and contributed to a move within global environmentalism from an anti-capitalist stance in the 1960s and 1970s to its twenty-first century embrace of the market. Holmes (2010) links this to the emergence of a powerful global elite in conservation, the strong position of a few powerful international NGOs within this, and the opportunities this offers for transnational capitalism to affect conservation. The privatisation of nature, the growth of big international NGOs and their increasing cooperate links, and the contemporary move away from engaging local actors are some of the characteristics of this new, capitalist form of environmental governance. As I showed in Chapter 4, however, the conservation discourse and practice has changed over time from a strict fortress-style approach to embracing the role of people in conservation. Nevertheless, too often the ‘people are a resource for conservation’ narratives continue to underpin the authority of orthodox scientific claims in defining problems and solutions, and inform how participation is framed in conservation practice (Jeanrenaud 2002). As my analysis of the changing political ecology of wetland resources in the Okavango in Chapters 5 and 6 has revealed, participation is sometimes cosmetic and not meaningful, and in some cases is used as a tool to further marginalise local environmental users. For example, Chapter 6 highlighted how the adoption of a fisheries code of conduct with the help of a GEF project, a process that appeared to be participatory and democratic, resulted in solutions that further marginalised commercial fishers from accessing prime fishing areas in the Okavango Delta; those areas were allocated instead to ‘low-impact, high value’ tourism. We must therefore ask: ‘Do changing discourses and practices represent socially-progressive trends, or are they new ways of legitimising

global environmental and development interventions, making new policies and practices more refined forms of technocratic control over people and nature' (Jeanrenaud 2002:44)?

Based on my in-depth study of the Okavango case, I would argue that this is certainly the situation if one looks at the outcomes of interventions such as the Ramsar Convention, GEF biodiversity mainstreaming projects and the strict national policies that characterise Okavango Delta conservation and management. Through these interventions, more land has been allocated to conservation and tourism, and the practices of subsistence resource-users have become more restricted due to increasing regulation and control by central government institutions that appropriate global discourses of degradation and tragedy of the commons narratives to justify these controls. At the same time, the interests of elite groups are always in the background, mediating these global discourses to (re)present their interests in a globalised and scientific language that is pro-conservation and can therefore not be questioned.

The global debates around biodiversity conservation, climate change and wider issues relating to the management of global environmental change, and the resulting interventions of international institutions such as the GEF, United Nations agencies and similar institutions need to be questioned, and the consequences of their framings and practices well understood. In the interests of social and environmental justice, the work of these agencies in landscapes like the Okavango Delta and similar ones around the world need to be closely interrogated, and emphasis should be placed on research that compares the dynamics before and after interventions in order to clearly understand how things change, whether these changes are positive or negative, and for whom. As the dynamics around conservation and 'ecotourism' in the Okavango Delta show, sometimes global solutions to local problems are socially unjust and may even be environmentally unsustainable in the long-term.

7.4 Contribution to the Literature

This thesis contributes to the literature and to academic debates on the politics of conservation and development, both in the context of Botswana and in the developing world in general, where the environment plays a significant role in the livelihoods of many rural communities. As already proposed in Chapter 1, it makes two main contributions to knowledge and literature. Firstly, it has shown how the global public goods approach is not helpful in the biodiversity conservation debate, where the practice is characterised by power asymmetries and exclusion from decision-making. Where the benefits of conservation may be captured privately, as this study has shown, the emphasis on global benefits often ignores, and sometimes marginalises local benefits. The study has

shown how in the context of the Okavango Delta the GPG approach has facilitated increased competition and conflict between different resource-users over certain environmental resources. It has revealed the winners and losers from the implementation of international conventions and the outcomes of interventions by institutions and organisations such as the GEF, Conservation International, the IUCN and others affiliated with them. Secondly, the thesis has highlighted the political economy of biodiversity conservation by presenting an empirical analysis of the global-local dynamics shaping biodiversity conservation in the Okavango Delta, and the local-level outcomes for natural resource-based livelihoods of rural communities. It has shown the role of power relations and the alliances between powerful elite groups in politics, business, cattle ranching, commercial tourism and international conservation in shaping the processes and outcomes of conservation. It has revealed how the alliances between local business elites and international conservation organisations have yielded the most gains for already economically and politically empowered groups at the expense of poorer groups.

This study therefore contributes to increased knowledge and understanding of the dynamics shaping political decision-making and development policy implementation in Botswana. It makes a contribution to debates on the management of natural resources and control over wealth derived from those resources in resource-dependent economies, in the context of changing environmental governance practices. Since independence, Botswana's economic performance has been impressive, and has in the recent past led to the country's classification as a middle-income economy, largely due to mineral wealth. Literacy rates and access to basic services such as water and health are near-universal, and democratic principles have generally been observed. There are, however, worrying patterns emerging from the development pathway that Botswana has followed. Poverty remains stubbornly high, and the gap between the rich and poor continues to widen. As Jefferis and Kelly (1999: 211-212) ask: 'Why has poverty persisted in spite of Botswana's 'economic miracle'...[and] who are the poor and what makes different groups more or less vulnerable to poverty in Botswana?' This thesis presents new evidence and analyses to address some of these unanswered questions by using a political ecological analysis to show how control over key aspects of the environment by select elite groups in politics, business and the bureaucracy *can* produce poverty by obstructing local resource-users from accessing key livelihood resources.

This thesis also contributes to debates on the nature of conservation policies and practices in Botswana, and indeed other southern African countries that also pursue wildlife and wilderness tourism. Drawing on detailed empirical material, it poses questions about environmental justice, the

rights of communities that reside alongside protected areas and their entitlements to the benefits of conservation. It also raises doubts about Botswana's approach to managing land, minerals and wildlife as national resources, and asks whether land and land-based resources such as wildlife should not directly benefit adjacent human communities before they benefit national and global communities. More importantly, it questions whether national and global communities should benefit from environmental conservation at the expense of poor rural communities that depend on accessing environmental resources for their livelihoods and survival.

Botswana and many other countries in southern Africa, including South Africa, Kenya, Zimbabwe, Zambia and Tanzania, have adopted tourism strategies that depend significantly on wildlife and wilderness conservation through the protected area management approach. In Botswana, tourism is seen not only as a passport to sell the 'Botswana brand' to the world, but as a necessary nation-building project that is important to economic diversification and growth away from minerals. The negative impacts of tourism and conservation in areas like the Okavango Delta are, however, little known to the majority of the people outside the Okavango. The loss of control over environmental resources to the tourism sector and the consequences of strict environmental policies on local people's access to key natural resources is a significant constraining factor on these people's ability to build sustainable livelihoods that can cope with climate and environmental change, risk and uncertainty. This thesis therefore offers new evidence and insights that contribute to a growing literature that offers a robust critique of conventional biodiversity conservation and the socio-economic and political implications of the practices that emerge from this approach, such as community-based tourism. For most of the residents of the Okavango Delta, the magic of the landscape goes hand-in-hand with the daily struggles to maintain their livelihood security amidst increasing environmental variability and uncertainty. They must battle against hardships presented by both the ecology of the area and the politics that shape it. Questions must therefore be asked about whether the strict conservation and high-end commercial tourism pathway that Botswana has chosen works for the majority of residents of the Okavango Delta area, and ultimately for the long-term sustainability of biodiversity conservation.

7.5 Wider Implications

The study has also shown how global policy frameworks for environmental management and conservation, such as the Ramsar Convention and the CBD, are mediated by particular elite interests at the local level that shape outcomes which may not necessarily contribute to environmental sustainability and/or social justice. This calls into question the very sustainability of

such processes, and raises questions of justice and rights in environmental management and conservation. My study calls for future pathways that open up space for the recognition of the rights of indigenous and subsistence user-groups in landscapes like the Okavango Delta, the Amazon rainforest and many others like them that are considered globally important and part of the heritage of humanity. The primary needs of such communities must be considered before those of the rest of the world and the countries that host them, because it is only with the meaningful participation of these resource-users that the management of environmental change, whether locally or globally, will succeed.

The Okavango Delta will, in the near future (possibly 2012), be declared a UNESCO World Heritage Site (see Ross 2010). Before this happens, critical questions must be asked about what this means, not only for the landscape but for the people as well. Is the listing going to enhance the profile of the Okavango Delta's people, or work against their interests and rights to the resource? These issues will become even more critical in the near future as the world grapples with managing climate change. How will global and national policies integrate issues of environmental rights and entitlements into laws, institutions and practices for managing the challenges of climate change while ensuring access to key resources for vulnerable groups?

These same questions pose an even bigger challenge for environmental policy-making in Botswana. Is it time for Botswana to rethink its development approach? The current approach is pro-growth and strict conservation of natural resources for national economic gains through tourism. But has the time come for the development and governance of Botswana's resources to be more pro-poor, and what will a shift to pro-poor growth entail? Debates about CBNRM have been ongoing for a few decades now, yet, in the context of Botswana, there has been a move towards recentralisation of control over wildlife and the proceeds from wildlife conservation. While it is almost universally agreed that CBNRM has the potential to uplift poor, rural communities from poverty, and contribute towards rural development and natural resource conservation, the challenges of implementing decentralised natural resource management programmes in Botswana remain significant, owing mostly to a lack of political will to empower communities and the accompanying resource-capture by elite groups at all levels. Ironically, as this thesis has shown, without significant pressure from external actors, it is unlikely that advocacy and action from poor resource-users in the Delta will bring about these much-needed changes in natural resource management policy and practice. This will require a reframing of conservation ideas, and an acceptance by international development and

conservation agencies that local needs and priorities must come before national and international interests. This thesis provides new evidence to help reframe this debate.

As discussed in Chapter 2, this thesis relied on a qualitative fieldwork research methodology to analyse how local-level dynamics are shaping resource-use and management in the Okavango Delta, and how these were influenced by global policy frameworks, narratives and discourses around biodiversity conservation. Understanding how these global processes are mediated by the interests of different locally-based actors in Botswana, and what the outcomes are for different groups and individuals was central to this study. Residence in the research area was important for giving me (some) perspective as a participant-observer on how local people experience the everyday politics and ecology of the Okavango Delta. Moreover, studying these issues as a local (Botswana citizen) enhanced my understanding of wider development issues in the Botswana context and gave me a broader perspective on what shapes socio-political and economic life in the country, and how different groups experience development processes. It did, however, raise more questions for me than it answered. As a Motswana, I find myself wondering what the future will look like in Botswana, and what role environmental governance can play in making it a more democratic country, one that not only pursues rapid economic growth, but growth that is just and pro-poor, and is aimed at empowering all to acquire a better life that can cope with the challenges presented by an uncertain future, a variable climate and turbulent economic change. As the world prepares for the Rio+20 Conference in Brazil in 2012 and yet another global conference about the future of the planet, let us hope the deliberation is relevant to the lives of the men and women of the Okavango Delta, and many like them around the world who rely on sustainable access to and control over their local environment to maintain basic livelihoods.

7.6 Gaps and Future Research

In this study I sought to explore the role that global environmental agreements play in shaping resource access and control dynamics in the Okavango Delta. It could have benefited from a more detailed unpacking of the global actors in biodiversity conservation and their links to the politics of the policy process in the context of Botswana. In particular, it would be interesting to analyse the nature of relations between certain well-positioned individuals in key international conservation roles and high-end commercial tourism in Botswana, and their role in shaping important policy decisions towards the management of the Okavango Delta. Given their power and influence, the interests and agendas of certain international organisations, such as Conservation International, WWF, the IUCN and the GEF, require greater scrutiny than I was able to provide in this study

because of time and resource constraints. A more in-depth political-economic analysis of the global players and what their interests are would, I believe, reveal a clearer picture of the nature of the practices around global biodiversity conservation and why particular approaches have become dominant and alternatives have received less attention and support. A close investigation of key actors, individuals and institutions, the networks between them and their role in framing problems, defining them and transmitting ideas at international and local levels would, I believe, reveal how these global processes, discourses and ideas become appropriated by different actors at different levels to push certain practices and agendas in different contexts. In the context of Botswana, this would require longitudinal studies that track political decisions over time, tracing the personal interests of powerful actors and their interactions with key alliances and institutions. It would reveal the *informal* processes through which political and private commercial interests (e.g. cattle ranching, private tourism, conservation etc.) influence *formal* policy decisions. This would require significant reliance on information that may not be easily available or in the public domain, but it would shed greater light on the historical, cultural and political-economic context within which policy decisions are made and interests are advanced.

Future research into the long-term outcomes of the recent changes in fisheries management in the Okavango Delta and the livelihoods and culture of fishing households and communities would contribute further to an understanding of the political ecology of biodiversity conservation in other wetland ecosystems and resources of global significance. The Botswana Government's Department of Environmental Affairs (DEA) is in the process of listing another ecosystem, the Makgadikgadi Salt Pans, as a Ramsar Site. This will certainly increase the profile of the salt pans as a tourism destination, but what has been learnt from the Okavango Delta's experience? What positive gains are there for the communities surrounding the pans, who currently live around and use this resource?

Dressler et al. (2010: 13) call for solutions that privilege social and environmental justice over financial outcomes. They advocate for a restoration of local access to, use of and control over locally-valued resources, backed by entitlements and political empowerment. How then might these global tools better benefit the livelihoods of poor resource-users where they are applied? How might their appropriation at policy decision-making levels influence positive outcomes for resource governance that is socially just and promotes poverty alleviation and equitable distribution of the benefits, as well as the costs, of conservation?

International conservation organisations already working in the Okavango Delta context are well-positioned to play an advocacy role and assist governments in finding pathways that not only advance conservation goals but also recognise the importance of welfare issues in achieving conservation. Would CBNRM be better placed to promote these twin goals? International organisations are already funding CBRNM initiatives in many southern African countries. What lessons have been learnt from these experiences, and how are they informing better solutions? How can CBNRM be salvaged in the context of Botswana, where it has already been tried and tested, and largely failed? Can global debates about the Okavango Delta and similar ecosystems around the world make positive contributions towards socially just environmental policies in local contexts?

These are questions for future research that could inform policy and practice at all levels, including the international level, where conservation decisions are increasingly being made. But to implement a more politically enlightened research agenda that works for both globally important landscapes and local livelihoods will require a radical reframing of debates on biodiversity conservation and environmental change, one that sees people – the local resource-users and managers – as part of the solution, not the problem.

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9. Appendices

Appendix 1: List of people interviewed

A. Government officials

Gaborone

1. Ms. Portia Segomelo, Deputy Director, Department of Environmental Affairs (DEA), also former ODMP Project Manager and member of the Okavango River Basin Commission (OKACOM)
2. Dr. Flyman, Senior Environment Officer, Policy and Programmes, DEA, MEWT
3. Ms. Ingrid Otukile, Head of Policy and Programmes, DEA, MEWT
4. Mr. Ruud Jansen, CTA UNDP-Government of Botswana, Environment Support Programme (DEA), MEWT, also former IUCN Country Programme Manager
5. Mr. Tiego Mpho- Component Manager, Environmental Governance, UNDP/GoB Environment Support Programme, DEA, also former IUCN officer
6. Mr. Shaft Nengu, Chief Wildlife Officer (Fisheries Division), Department of Wildlife and National Parks (DWNP), MEWT
7. Ms. Tracy Molefhi, National Coordinator(RBOs), International Waters Unit, MEWT
8. Mr. Boikobo Paya, Principal Water Resources officer, and Commissioner for OKACOM and Limpopo River Basin Commission, MEWT

Maun

9. Mr. Segos Costume, District Coordinator, DEA, MEWT, also former ODMP project officer
10. Mr. Ramie Ramogopi, Rural Sociologist, DEA, Maun, also former ODMP project officer
11. Mr. Judge Manyemane, Senior Fisheries Officer, DWNP, MEWT
12. Mr. Thethela Bokhutlo, Research Officer (Fisheries Division), DWNP, MEWT
13. Mr. T. Mazebedi, Senior Wildlife Officer, Head of Management and Utilisation, DWNP, MEWT
14. Dr. Naidu Kurugundla, Senior Water Resources Officer, Aquatic Vegetation Division, Department of Water Affairs (DWA), MEWT and ODMP Focal Person for DWA

Seronga and Shakawe

15. Mr. R. Tsalaile, Senior Widlife Officer, DWNP, Seronga
16. Mr. Moses Kenewendo, Senior Wildlife (Problem Animal Control), DWNP, Seronga
17. Mr. Luke Peter, Senior Technical Officer, Department of Veterinary Services
18. Mr. Mothusi Maithamako, Fisheries Extension Officer, *Seronga*
19. Mr. Okae Setswalo, Head of Fisheries Division, *Shakawe*

B. Local authorities/ Community-based institutions

20. Mr. Bonang Karundu, Chairperson of Seronga Sub-Land Board
21. Mr. Pus One, Technical Officer, Seronga Sub-Land Board
22. Mr. Maeze Maeze, Senior Chief Representative (i.e. Chief of Seronga and surrounding localities)
23. Mr. John Joseph, (Headman of Records), Seronga
24. Mr. Matota Teko, Community Conservation Officer, Okavango Community Trust, Seronga
25. Mr. Sehenyi Tlotlego, Programme Coordinator, Trust for Okavango Cultural and Development Initiatives (TOCaDI), Shakawe
26. Mr. Willy Phillips, Independent Councillor and businessman, Seronga
27. Mr. Haskins Ndaba, Village Development Committee Chairperson, Seronga
28. Ms. Joyce Maeze, Deputy Chairperson of the Village Development Committee, Seronga
29. Mr. Matota Teko, Environment Officer Okavango Community Trust (OCT), Seronga
30. Ms. Motlaleng, Accountant, Okavango Community Trust (OCT), Seronga
31. Ms. Madigah Majasagagwe, Office Manager, Okavango Polers Trust, Seronga
32. Mr. O.M. Sakhuze, Board of Trustees, OCT, Seronga

C. <u>University of Botswana academics/ Okavango Research Institute, Maun</u>

33. Dr. Jeremy Perkins, Environmental Scientist, Gaborone
34. Prof. Susan Ringrose, Director of Okavango Research Institute, Maun
35. Dr. Lapo Magole, Research Fellow-Natural Resource Governance, ORI, Maun and former coordinator of the ODMP Participatory Planning Component
36. Dr. Susan Keitumetse, Research Fellow- Cultural Tourism, ORI, Maun
37. Prof. Donald Kgathi – Head of Livelihoods Unit, ORI, Maun
38. Dr. Mmopelwa, Research Fellow- Livelihoods Unit, ORI, Maun
39. Mr. Keta Mosepele, Research Fellow/Fisheries expert, ORI, Maun
40. Dr. Joseph Mbaiwa, Research Fellow/Sustainable Tourism, ORI, Maun
41. Dr. Piotr Wolski, Research Fellow/Hydrologist, ORI, Maun

D. <u>GEF/UNDP Biokavango Project staff</u>

42. Dr. Nkobi Moleele, National Project Coordinator, ORI, Maun
43. Ms.. Belda Mosepele, Fisheries specialist, ORI, Maun
44. Mr. Innocent L. Magole, Tourism Specialist, ORI, Maun
45. Mr. Douglas Thamage, Community Liaison Officer, Shakawe

E. <u>Other experts (international)</u>

46. Dr. Akiko Yamamoto, GEF/UNDP International Waters Unit, UNDP Pretoria, South Africa
47. Ms. Masego Madzwamuse, former IUCN Country Representative Botswana, now UNDP/GEF Sustainable Lands Management Program
48. Dr. Eliot Taylor, former Chief Technical Advisor to the ODMP, Oxford, UK

49. Prof. Gerardo E. van Halsema, Assistant Professor, Irrigation and Water Engineering Group, University of Waginenging, Occasional RAMSAR Technical Expert
50. Ms. Cathleen Cybele, Assistant Advisor-AFRICA, Ramsar Convention Secretariat, Gland Switzerland
51. Dr. Martin Todd, Sussex University, Geography Department
52. Dr. Dominic Kniverton, Sussex University, Geography Department

F. Community members in Seronga

Farmers

53. Mr. Keboetswe Sefo
54. Mr. Ama Gaesemodimo
55. Mr. Mashaze Mosupiemang
56. Mr. Setlaboshang Mbango
57. Mrs. Shomana Shizurwa
58. Mrs. Kesolofetse Motlhokawabo
59. Mr. Sakaria Kewetse
60. Mr. Teko Ditirwa
61. Mr. Gaesemodimo Xhwokhwe
62. Mr. Moguniwa Leso
63. Ms. Moyarubi Sefo
64. Ms. Mponang Kotongwa
65. Mrs. Matshwenyego Samojwa
66. Mrs. Joyce Maeze
67. Mrs. Dimbo Teko
68. Ms. Olebile Morotse
69. Mr. Matota Teko
70. Mr. O.M. Sakhozi
71. Mrs. Mosadi Mbwe

Basket weavers

72. Ms. Kelatlhegile Ndozi
73. Ms. Reshando Simba
74. Ms. Makhiana Moabi
75. Ms. Gabaipuwe Masasa
76. Ms. Kagiso Rishetini
77. Ms. Kelefitlhetse Mbankoong
78. Ms. Moruo Dikajire

Commercial fishermen

79. Mr. Salepito Sebupiwa
80. Mr. Batafela Gabaitsewe
81. Mr. Moyaneng Kanda Tiroyabarwa

82. Mr. Kamasanga Gaesemodimo
83. Mr. Maila Mmusi
84. Mr. Mokopi Tebogo
85. Mr. M. Mbwe
86. Mr. Tshobelo Khulu
87. Mr. Mphetsolang Kesenoletswe
88. Mr. Ngande Moabi
89. Mr. Pitso Enametse (Chairperson of Seronga Fishermen Association)
90. Mr. Dibebe Maselaga (also member of the Okavango Fisheries Association)
91. Mr. Diperenge Owanga
92. Mr. Saokhwa Xhau
93. Mr. Kesolofetse Kafuro (Ngarange)
94. Mr. Tshenolo Lebopama (Samochima)
95. Mr. Saishiku Njwaki (Samochima, also chairperson of Okavango Fishermen Association)
96. Mr. Seranda Dibebe (Samochima)
97. Mr. Mafoko Shimwe (Samochima)

Tourism

98. Ms. Thalitha Moutloatse, Wild Walk Safaris
99. Mr. Map Ives, Environment Officer, Okavango Wilderness Safaris
100. Mr. Jan Drotsky, Owner, Drotsky's Cabins, Shakawe
101. Ms. Anne Clifthill, Owner, Seronga Boat Taxi, and businesswoman
102. Mr. Kaiser, Manager, Wilderness Dawning Houseboat, Shakawe

Appendix 2: Factors affecting livelihood activities in the Okavango Delta

Livelihood activity	**Environmental dynamics**	**Local responses to environmental change** ***(from observations and interview responses)***
Farming (agro-pastoral*):* ***Arable farming***- Dryland and flood-recession *(molapo)* agriculture ***Livestock rearing-*** Cattle are important as a store of wealth, a status symbol and a source of food (milk, meat) and draught power for arable farming	• Low, unreliable rainfall, poor soils and frequent droughts • Fluctuating and unpredictable flooding patterns: floods maybe too high, not recede, or not come at all • Increasing number of crop raids (especially by elephants) at night. Low-lying *molapo* fields are also often raided by hippos • Plant and animal diseases (CBPP, FMD, liver fluke)	• Adoption of diversified and flexible farming methods to spread the risk: multiple cropping; use of drought resistant varieties; intercropping; cultivation of different fields at different sites; early harvesting, and lengthening of the growing season by mixing flood-recession with dryland agriculture • Some farmers reported the practice of burying watermelons to reduce the losses from crop raids • Chilli pepper strategy (burning chilli peppers mixed with elephant dung and placed at strategic points in the field)
Harvesting of veld products (grass, reeds, palm leaves for baskets and wild foods, and fuel/wood)	Users report decreasing availability of these resources due to changes in climate conditions (e.g. low rainfall), over-exploitation and competition with other uses/-rs (e.g. wildlife)	• Increased harvests to maximise profit for those who sell, allocation of more labour and time resources (travelling long distances, relying on social relations to access other harvesting sites and purchasing from other harvesters) • Exit from harvest as most households already harvest for themselves • Planting of palm trees: not very successful activity

Fishing: carried out for recreation, food and profit	• Desiccation of floodplains • Fishing grounds are now too far from villages, in lagoons where dangerous animals are concentrated	• Adoption of multi-gear technology to maximise access to fish all year round. • Processing of fish to prolong its freshness (smoking, drying, salting) • Leaving the fishing activity or fishing only opportunistically
Wildlife use: Based on consumptive and non-consumptive use of wildlife (for safari hunting and wildlife photography) and culture of communities in the Delta	• The desiccation of floodplains and river channels • Wildlife movements and availability	Pursuing other livelihood activities (e.g. seeking formal employment, enrolling for social welfare services)

Appendix 3: Factors affecting women's access to NFTPs

Resource/Collector	**Uses**	**Access-regulating factors**	
		Environmental *(Availability of all resources is determined by rainfall patterns and flooding)*	***Socio-political*** (Agricultural Resources Conservation Regulations of 2006 set out to restrict/limit harvests)
Grass/ Women only	Thatching/roofing mud and reed huts. Also sold to tourism companies for roofing tourist facilities in the Okavango Delta. Some (species) are used for weaving baskets.	- Harvesting sites located far away from settlements - Island sites populated with dangerous large mammals (e.g. hippopotamus and elephants), so human-wildlife interactions are high	- No access to traditional harvesting sites as these are beyond the 'buffalo fence' - Social-relations (forming groups) help in accessing far-away sites and reducing time spent on harvests - Access to transport harvest back to village, especially if sites are on islands - Collectors in settlements far from permanent waters have to travel long distances and invest a lot of time (on average 25 days)
Reeds/ Predominantly women	Reed mats, building courtyards, fishing baskets	- Available only in permanent swamp areas - Safety is an issue due to high human-wildlife interactions (e.g. crocodiles). This activity requires standing in the water for extended periods of time	
Palm leaves/ Women only	Weaving traditional reed baskets	- Scarcity of both palm leaves and colouring/decorating material (dye from plants) - Travelling long distances to access harvesting sites	- Highly-skilled activity (both for weaving and preparing materials, e.g. treating the leaves and preparing dye). Many women have no opportunity to learn - Also taboos around the use of the materials (e.g. not to be handled during menstruation)

			- Dependence on social relations to harvest in areas where the resources are available (permission from women in other sites) - Access to synthetic dye
Wild foods/ Women and children	Supplementing diet, especially during the 'hungry' season	- Competition with wildlife (especially elephants for the same fruits), also presenting danger - Harvesting sites located far away (scarcity close to settlements) - Scarcity of some resources	Traditional harvesting now beyond the 'buffalo fence'

Appendix 4: Fisheries Code of Conduct

(Available at: http://www.orc.ub.bw/biokavango/content/code-conduct-responsible-fishing-teh-okavango-Delta) Last accessed on 06/03/2011

Code No 1: Fishing of any form in front of lodges is restricted. A buffer zone along the main channels shall be 100m on either side of the lodge along the channel, and 200m in front of the lodge.

Code No 2: There shall be "no wake zones" in the Delta next to vertical banks, (which are normally used as bird nesting areas), lagoons, sand banks, in front of lodges, and upon meeting traditional crafts such as *mekoro*, rafts, etc.

Code No 3: For personal safety, *mekoro,* other traditional craft and heavily laden boats shall wait for other faster motorised boats to pass them before they continue on their way.

Code No 4: All campfires must be extinguished after use and when abandoning camps on islands or any parts of the Delta

Code No 5: Anybody driving a boat shall not drink any form of alcoholic beverage

Code No 6: There shall be no littering in the river, on the banks or on any island in the Delta

Code No 7: Making nets with plastic bags shall not be allowed, and only material made out of natural material (e.g. cotton, grass, papyrus, etc.) can be used for this purpose. Factory made floats or any factory made marker can be used also.

Code No 8: Any fish taken / harvested from the river/water, either by hook, gill net, or by any form of fishing gear (by all fisher groups), shall be recorded accordingly to assist the Fisheries Division (DWNP) (and other institutions and stakeholders) in medium and long term monitoring of fish stock and fisheries in the Delta.

Code No 9: All stakeholders in the Delta's fishery take it as their individual responsibility to uphold / observe the Fish Protection and Regulations of 2008 as promulgated by the Department of Wildlife and National Parks – Fisheries Division.

Code No 10: All stakeholders in the Delta's fishery agree to observe and uphold this code to not only ensure minimum conflict among users but to also achieve sustainable fish utilisation.